

## WCA-3A RAINFALL-BASED MANAGEMENT PLAN

**Target Flow January 7, 2020 to January 13, 2020 0 cfs**

The target flow is distributed from east to west (S-333, S-12D, S-12C, S-12B, and S-12A) to keep WCA 3A releases away from sub-population A of the Cape Sable seaside sparrow

Rainfall Formula Amount	0 cfs
<input checked="" type="checkbox"/> Regulatory Discharge	0 cfs
<input type="checkbox"/> Potential Regulatory Discharge	0 cfs

<b>----Data Summary ----</b>	<b>December 28, 2019</b>	<b>to</b>	<b>January 3, 2020</b>
WCA-3A Stage (end of week)	9.65		ft-NGVD
Angel's	5.73		ft-NGVD
G-3273	6.54		ft-NGVD

Station	Rainfall (in)	Pan Evaporation (in)
NEXRAD Rain for WCA-3A and S7 evaporation	0.44	0.90
S-140		0.93
ENP		M
This Week's Avg	0.44	0.92
Pre-Project Avg	0.27	0.75

### ---- Regulatory Discharge Calculation ----

<b>WCA-3A is in Zone E</b>	<b>Discharge Coeff. (cfs/ft) =</b>	<b>2500</b>
Regulatory discharge is		0 cfs
Distance to Bottom of Current Zone	N/A	feet
Distance to Top of Current Zone		0.34 feet

### ----Potential Regulatory Discharge Considering Upstream Water Levels----

	Stage (ft-NGVD)	Regulation Stage (ft-NGVD)	Excess Storage (ac-ft)	Depth (ft)
WCA-1	16.70	17.07	0	
WCA-2A	12.22	11.45	55,930	
Others			0	
Total Storage Adjustment			55,930	0.12
WCA-3A	9.65			
Adjusted WCA-3A	9.77			

<b>Adjusted WCA-3A is in Zone E</b>	<b>Discharge Coeff. (cfs/ft) =</b>	<b>2500</b>
Potential regulatory discharge		0 cfs
Distance to Bottom of Current Zone		-0.04 feet
Distance to Top of Current Zone		0.21 feet

### ----Statistical Parameters ----

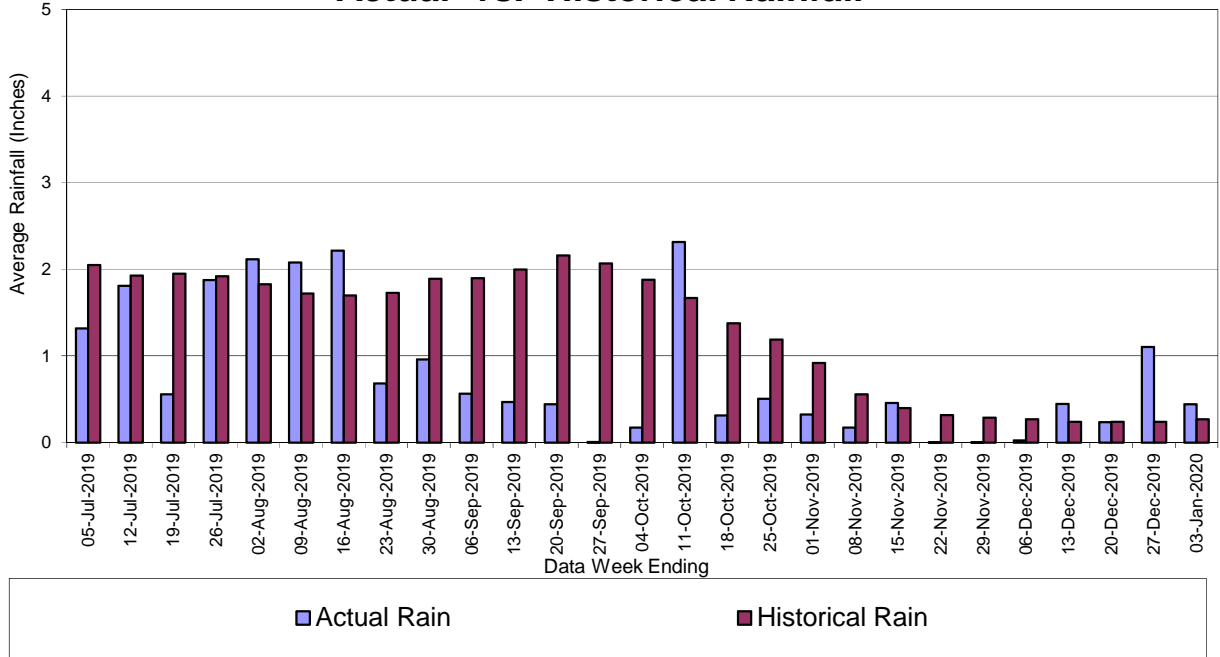
Rainfall Formula Amount	-182 cfs
Last Week's Rainfall Formula	-261 cfs
Pre-project Mean Discharge	247 cfs

Rainfall Excess Terms	RL1 0.90	RL2 -0.65	RL3	-1.69
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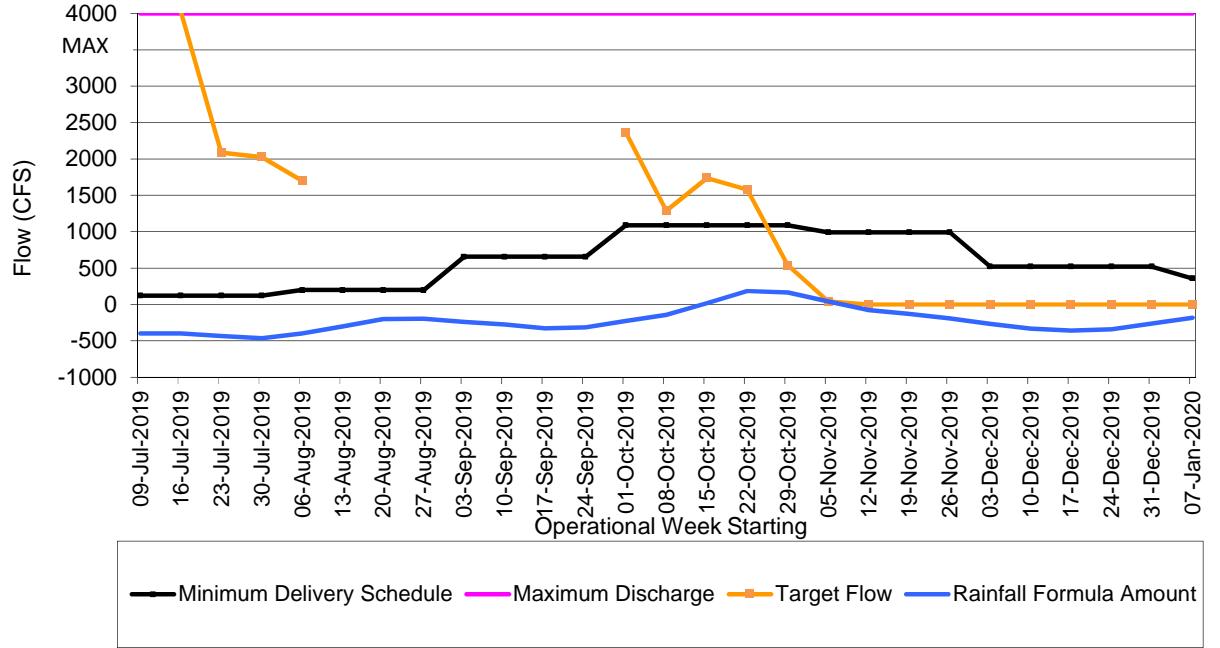
**COMMENT: S7 estimated evap data and S140 estimated evap data were used. ENP evap data were missing**

**\*NOTE: Actual discharges may vary from target discharges because of changing hydrologic conditions.**

## Shark River Slough Actual vs. Historical Rainfall



## Deliveries to Shark River Slough Computed by Rainfall Plan



## WCA-3A RAINFALL-BASED MANAGEMENT PLAN

**Target Flow January 14, 2020 to January 20, 2020** **0 cfs**

The target flow is distributed from east to west (S-333, S-12D, S-12C, S-12B, and S-12A) to keep WCA 3A releases away from sub-population A of the Cape Sable seaside sparrow

Rainfall Formula Amount 0 cfs  
Regulatory Discharge 0 cfs  
Potential Regulatory Discharge 0 cfs

**----Data Summary ----**

	January 4, 2020	to	January 10, 2020
WCA-3A Stage (end of week)	9.59		ft-NGVD
Angel's	5.46		ft-NGVD
G-3273	6.30		ft-NGVD

<u>Station</u>	<u>Rainfall (in)</u>	<u>Pan Evaporation (in)</u>
NEXRAD Rain for WCA-3A and S7 evaporation	0.07	1.04
S-140		0.94
ENP		M
This Week's Avg	0.07	0.99
Pre-Project Avg	0.25	0.77

**---- Regulatory Discharge Calculation ----**

<b>WCA-3A is in Zone E</b>	<b>Discharge Coeff. (cfs/ft) =</b>	<b>2500</b>
Regulatory discharge is		0 cfs
Distance to Bottom of Current Zone	N/A	feet
Distance to Top of Current Zone		0.35 feet

**----Potential Regulatory Discharge Considering Upstream Water Levels----**

	Stage (ft-NGVD)	Regulation Stage (ft-NGVD)	Excess Storage (ac-ft)	Depth (ft)
WCA-1	16.65	17.03	0	
WCA-2A	12.12	11.34	54,520	
Others			0	
Total Storage Adjustment			54,520	0.12
WCA-3A	9.59			
Adjusted WCA-3A	9.71			

<b>Adjusted WCA-3A is in Zone E</b>	<b>Discharge Coeff. (cfs/ft) =</b>	<b>2500</b>
Potential regulatory discharge		0 cfs
Distance to Bottom of Current Zone		-0.04 feet
Distance to Top of Current Zone		0.23 feet

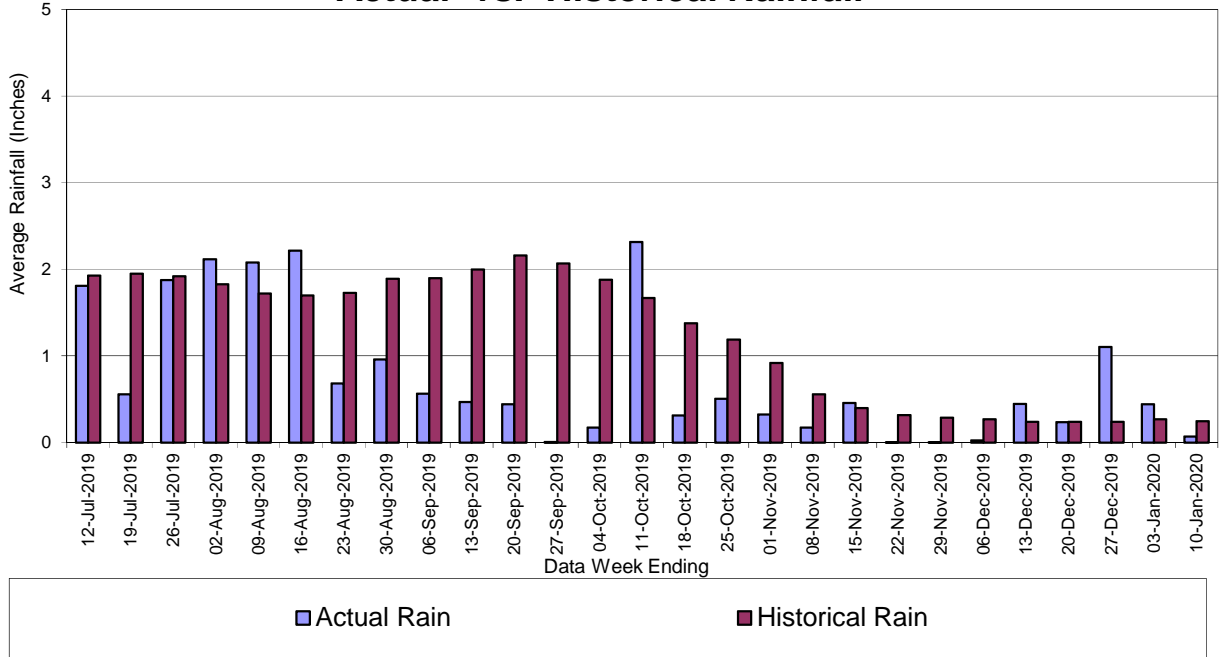
**----Statistical Parameters ----**

Rainfall Formula Amount		-183 cfs
Last Week's Rainfall Formula		-182 cfs
Pre-project Mean Discharge		216 cfs
Rainfall Excess Terms		
RL1 -0.31	RL2 0.55	RL3 -1.24

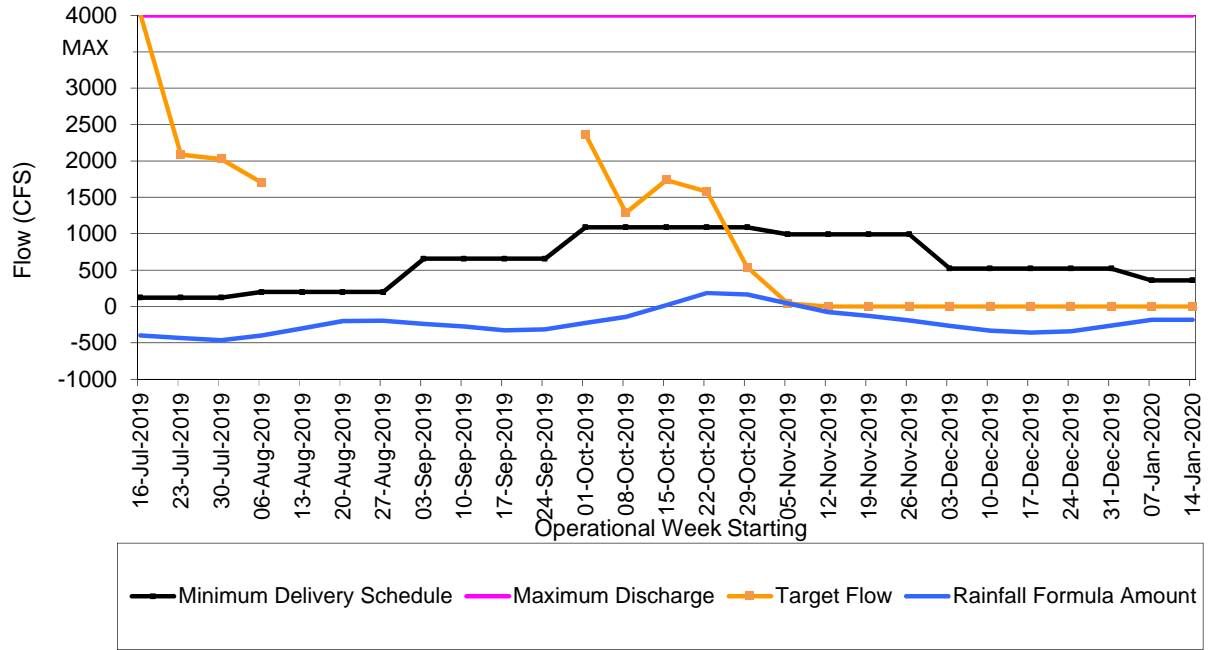
**COMMENT: S7 estimated evap data and S140 estimated evap data were used. ENP evap data were missing**

**\*NOTE: Actual discharges may vary from target discharges because of changing hydrologic conditions.**

## Shark River Slough Actual vs. Historical Rainfall



## Deliveries to Shark River Slough Computed by Rainfall Plan



## WCA-3A RAINFALL-BASED MANAGEMENT PLAN

**Target Flow January 21, 2020 to January 27, 2020** **0 cfs**

The target flow is distributed from east to west (S-333, S-12D, S-12C, S-12B, and S-12A) to keep WCA 3A releases away from sub-population A of the Cape Sable seaside sparrow

Rainfall Formula Amount 0 cfs  
Regulatory Discharge 0 cfs  
Potential Regulatory Discharge 0 cfs

**----Data Summary ----**

	January 11, 2020	to	January 17, 2020
WCA-3A Stage (end of week)	9.54		ft-NGVD
Angel's	5.34		ft-NGVD
G-3273	6.10		ft-NGVD

<u>Station</u>	<u>Rainfall (in)</u>	<u>Pan Evaporation (in)</u>
NEXRAD Rain for WCA-3A and S7 evaporation	0.06	1.04
S-140		0.90
ENP		M
This Week's Avg	0.06	0.97
Pre-Project Avg	0.35	0.81

**---- Regulatory Discharge Calculation ----**

<b>WCA-3A is in Zone E</b>	<b>Discharge Coeff. (cfs/ft) =</b>	<b>2500</b>
Regulatory discharge is		0 cfs
Distance to Bottom of Current Zone	N/A	feet
Distance to Top of Current Zone		0.36 feet

**----Potential Regulatory Discharge Considering Upstream Water Levels----**

	Stage (ft-NGVD)	Regulation Stage (ft-NGVD)	Excess Storage (ac-ft)	Depth (ft)
WCA-1	16.64	16.99	0	
WCA-2A	12.01	11.23	50,300	
Others			0	
Total Storage Adjustment			50,300	0.12
WCA-3A	9.54			
Adjusted WCA-3A	9.66			

<b>Adjusted WCA-3A is in Zone E</b>	<b>Discharge Coeff. (cfs/ft) =</b>	<b>2500</b>
Potential regulatory discharge		0 cfs
Distance to Bottom of Current Zone		-0.04 feet
Distance to Top of Current Zone		0.24 feet

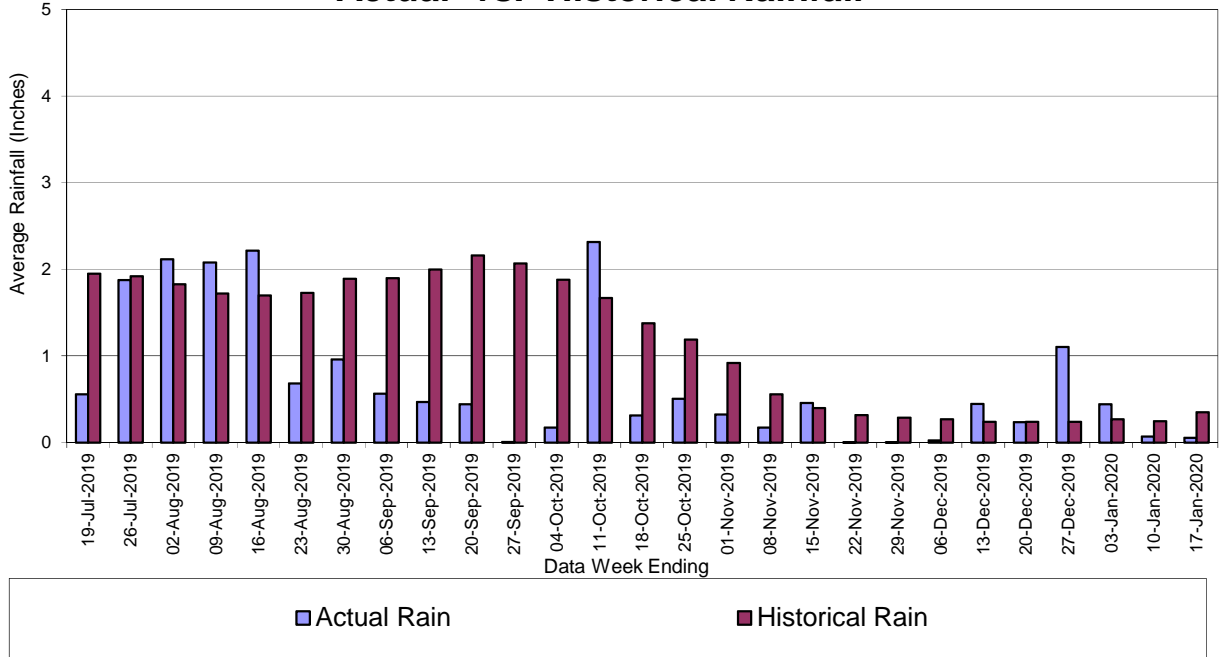
**----Statistical Parameters ----**

Rainfall Formula Amount		-208 cfs
Last Week's Rainfall Formula		-183 cfs
Pre-project Mean Discharge		186 cfs
Rainfall Excess Terms		
RL1 -0.77	RL2 0.96	RL3 -1.10

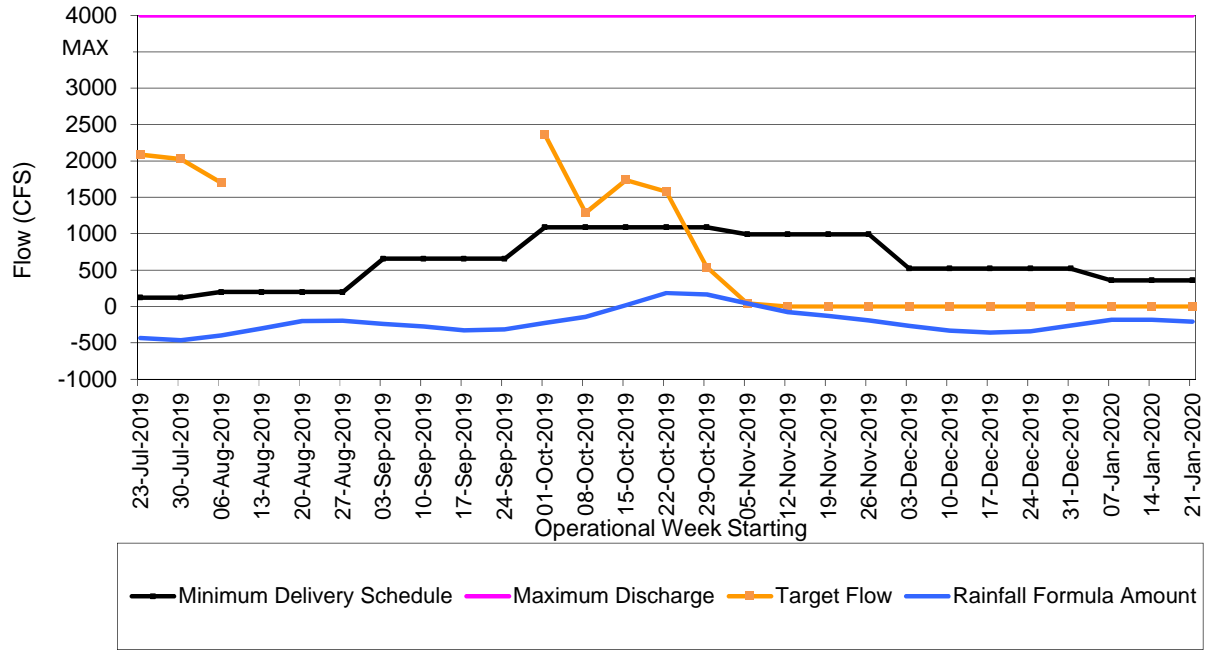
**COMMENT: S7 estimated evap data and S140 estimated evap data were used. ENP evap data were missing**

**\*NOTE: Actual discharges may vary from target discharges because of changing hydrologic conditions.**

## Shark River Slough Actual vs. Historical Rainfall



## Deliveries to Shark River Slough Computed by Rainfall Plan



## WCA-3A RAINFALL-BASED MANAGEMENT PLAN

**Target Flow January 28, 2020 to February 3, 2020** **0 cfs**

The target flow is distributed from east to west (S-333, S-12D, S-12C, S-12B, and S-12A) to keep WCA 3A releases away from sub-population A of the Cape Sable seaside sparrow

Rainfall Formula Amount 0 cfs  
Regulatory Discharge 0 cfs  
Potential Regulatory Discharge 0 cfs

**----Data Summary ----**

	January 18, 2020	to	January 24, 2020
WCA-3A Stage (end of week)	9.45		ft-NGVD
Angel's	5.13		ft-NGVD
G-3273	5.85		ft-NGVD

<u>Station</u>	<u>Rainfall (in)</u>	<u>Pan Evaporation (in)</u>
NEXRAD Rain for WCA-3A and S7 evaporation	0.06	1.05
S-140		0.97
ENP		M
This Week's Avg	0.06	1.01
Pre-Project Avg	0.33	0.83

**---- Regulatory Discharge Calculation ----**

<b>WCA-3A is in Zone E</b>	<b>Discharge Coeff. (cfs/ft) =</b>	<b>2500</b>
Regulatory discharge is		0 cfs
Distance to Bottom of Current Zone	N/A	feet
Distance to Top of Current Zone		0.40 feet

**----Potential Regulatory Discharge Considering Upstream Water Levels----**

	Stage (ft-NGVD)	Regulation Stage (ft-NGVD)	Excess Storage (ac-ft)	Depth (ft)
WCA-1	16.64	16.91	0	
WCA-2A	11.90	11.11	42,700	
Others			0	
Total Storage Adjustment			42,700	0.10
WCA-3A	9.45			
Adjusted WCA-3A	9.55			

<b>Adjusted WCA-3A is in Zone E</b>	<b>Discharge Coeff. (cfs/ft) =</b>	<b>2500</b>
Potential regulatory discharge		0 cfs
Distance to Bottom of Current Zone		-0.04 feet
Distance to Top of Current Zone		0.30 feet

**----Statistical Parameters ----**

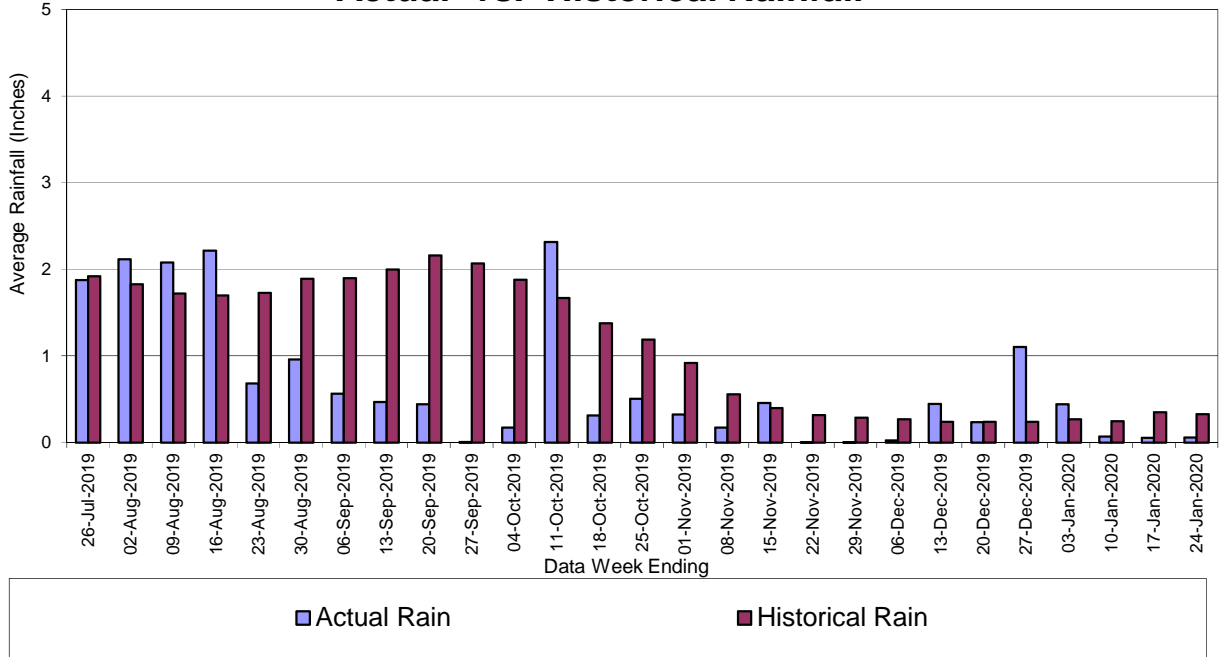
Rainfall Formula Amount	-243 cfs
Last Week's Rainfall Formula	-208 cfs
Pre-project Mean Discharge	153 cfs

Rainfall Excess Terms	RL1 -0.84	RL2 0.51	RL3 -0.95
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**COMMENT: S7 estimated evap data and S140 estimated evap data were used. ENP evap data were missing**

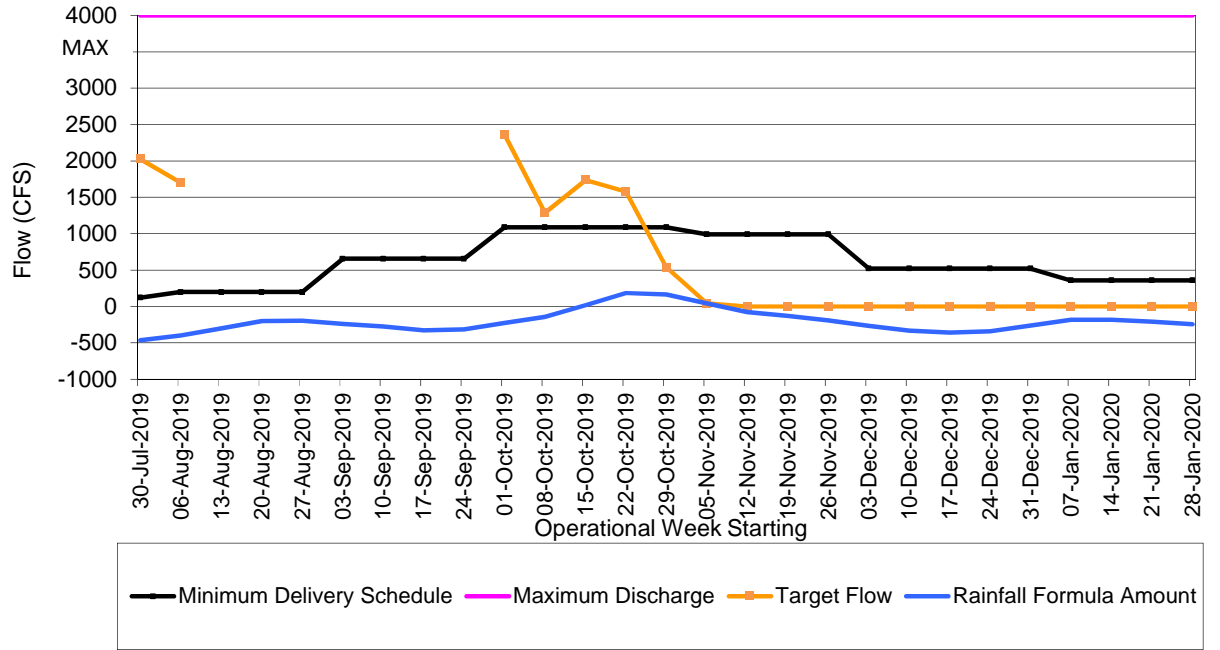
**\*NOTE: Actual discharges may vary from target discharges because of changing hydrologic conditions.**

## Shark River Slough Actual vs. Historical Rainfall



■ Actual Rain                      ■ Historical Rain

## Deliveries to Shark River Slough Computed by Rainfall Plan



— Minimum Delivery Schedule    — Maximum Discharge    — Target Flow    — Rainfall Formula Amount



## WCA-3A RAINFALL-BASED MANAGEMENT PLAN

**Target Flow February 4, 2020**

**to February 10, 2020**

**0 cfs**

The target flow is distributed from east to west (S-333, S-12D, S-12C, S-12B, and S-12A) to keep WCA 3A releases away from sub-population A of the Cape Sable seaside sparrow

Rainfall Formula Amount	0 cfs
<input checked="" type="checkbox"/> Regulatory Discharge	0 cfs
<input type="checkbox"/> Potential Regulatory Discharge	0 cfs

<b>----Data Summary ----</b>	<b>January 25, 2020</b>	<b>to</b>	<b>January 31, 2020</b>
WCA-3A Stage (end of week)	9.52		ft-NGVD
Angel's	5.84		ft-NGVD
G-3273	6.22		ft-NGVD

<u>Station</u>	<u>Rainfall (in)</u>	<u>Pan Evaporation (in)</u>
NEXRAD Rain for WCA-3A and S7 evaporation	1.08	1.01
S-140		1.00
ENP		M
This Week's Avg	1.08	1.00
Pre-Project Avg	0.35	0.88

**---- Regulatory Discharge Calculation ----**

<b>WCA-3A is in Zone E</b>	<b>Discharge Coeff. (cfs/ft) =</b>	<b>2500</b>
Regulatory discharge is		0 cfs
Distance to Bottom of Current Zone	N/A	feet
Distance to Top of Current Zone		0.29 feet

**----Potential Regulatory Discharge Considering Upstream Water Levels----**

	Stage (ft-NGVD)	Regulation Stage (ft-NGVD)	Excess Storage (ac-ft)	Depth (ft)
WCA-1	16.60	16.83	0	
WCA-2A	11.83	11.00	42,900	
Others			0	
Total Storage Adjustment			42,900	0.10
WCA-3A	9.52			
Adjusted WCA-3A	9.62			

<b>Adjusted WCA-3A is in Zone E</b>	<b>Discharge Coeff. (cfs/ft) =</b>	<b>2500</b>
Potential regulatory discharge		0 cfs
Distance to Bottom of Current Zone		-0.04 feet
Distance to Top of Current Zone		0.18 feet

**----Statistical Parameters ----**

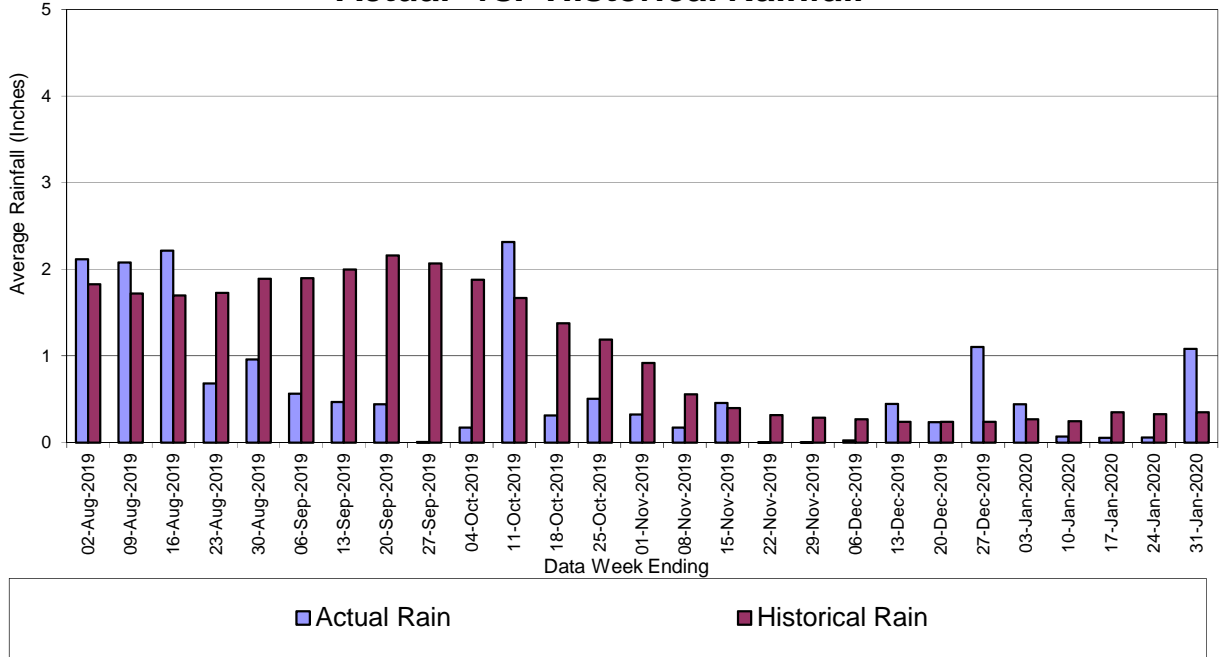
Rainfall Formula Amount	-212 cfs
Last Week's Rainfall Formula	-243 cfs
Pre-project Mean Discharge	130 cfs

Rainfall Excess Terms	RL1 0.22	RL2 0.12	RL3 -0.65
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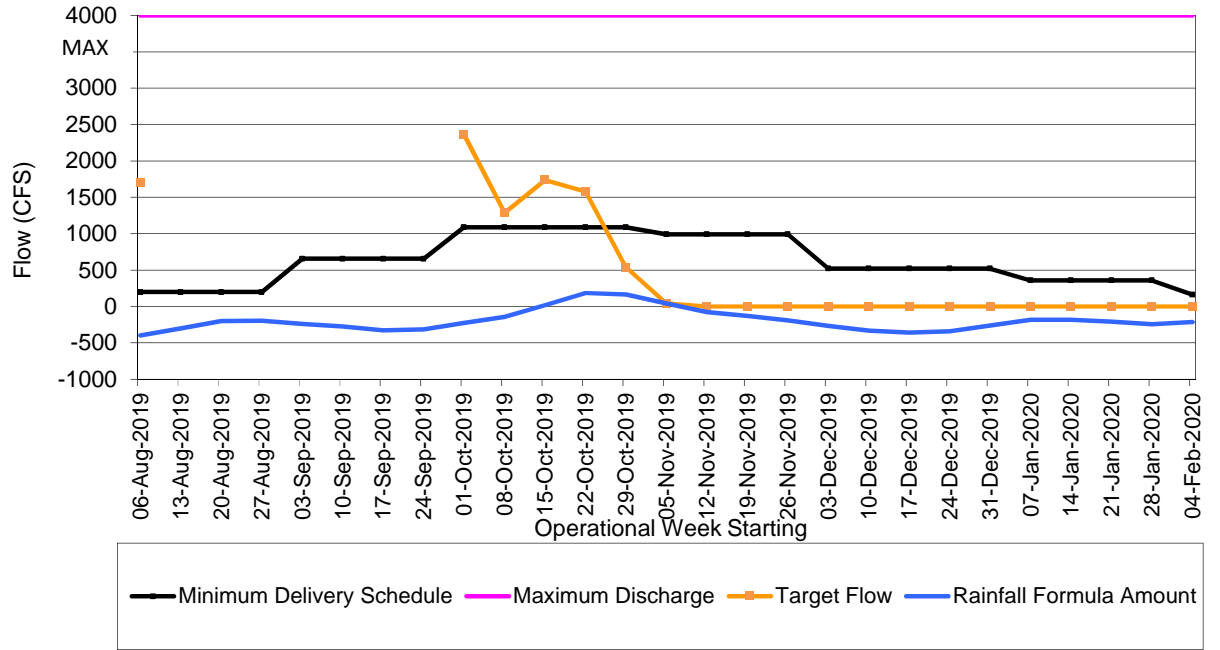
**COMMENT: S7 estimated evap data and S140 estimated evap data were used. ENP evap data were missing**

**\*NOTE: Actual discharges may vary from target discharges because of changing hydrologic conditions.**

## Shark River Slough Actual vs. Historical Rainfall



## Deliveries to Shark River Slough Computed by Rainfall Plan



## WCA-3A RAINFALL-BASED MANAGEMENT PLAN

**Target Flow February 11, 2020 to February 17, 2020 0 cfs**

The target flow is distributed from east to west (S-333, S-12D, S-12C, S-12B, and S-12A) to keep WCA 3A releases away from sub-population A of the Cape Sable seaside sparrow

Rainfall Formula Amount 0 cfs  
Regulatory Discharge 0 cfs  
Potential Regulatory Discharge 0 cfs

**----Data Summary ----**

	February 1, 2020	to	February 7, 2020
WCA-3A Stage (end of week)	9.48		ft-NGVD
Angel's	5.42		ft-NGVD
G-3273	6.13		ft-NGVD

<u>Station</u>	<u>Rainfall (in)</u>	<u>Pan Evaporation (in)</u>
NEXRAD Rain for WCA-3A and S7 evaporation	0.74	1.16
S-140		1.09
ENP		M
This Week's Avg	0.74	1.12
Pre-Project Avg	0.35	0.94

**---- Regulatory Discharge Calculation ----**

<b>WCA-3A is in Zone E</b>	<b>Discharge Coeff. (cfs/ft) =</b>	<b>2500</b>
Regulatory discharge is		0 cfs
Distance to Bottom of Current Zone	N/A	feet
Distance to Top of Current Zone		0.28 feet

**----Potential Regulatory Discharge Considering Upstream Water Levels----**

	Stage (ft-NGVD)	Regulation Stage (ft-NGVD)	Excess Storage (ac-ft)	Depth (ft)
WCA-1	16.72	16.76	0	
WCA-2A	11.93	11.00	50,700	
Others			0	
Total Storage Adjustment			50,700	0.12
WCA-3A	9.48			
Adjusted WCA-3A	9.60			

<b>Adjusted WCA-3A is in Zone E</b>	<b>Discharge Coeff. (cfs/ft) =</b>	<b>2500</b>
Potential regulatory discharge		0 cfs
Distance to Bottom of Current Zone		-0.04 feet
Distance to Top of Current Zone		0.16 feet

**----Statistical Parameters ----**

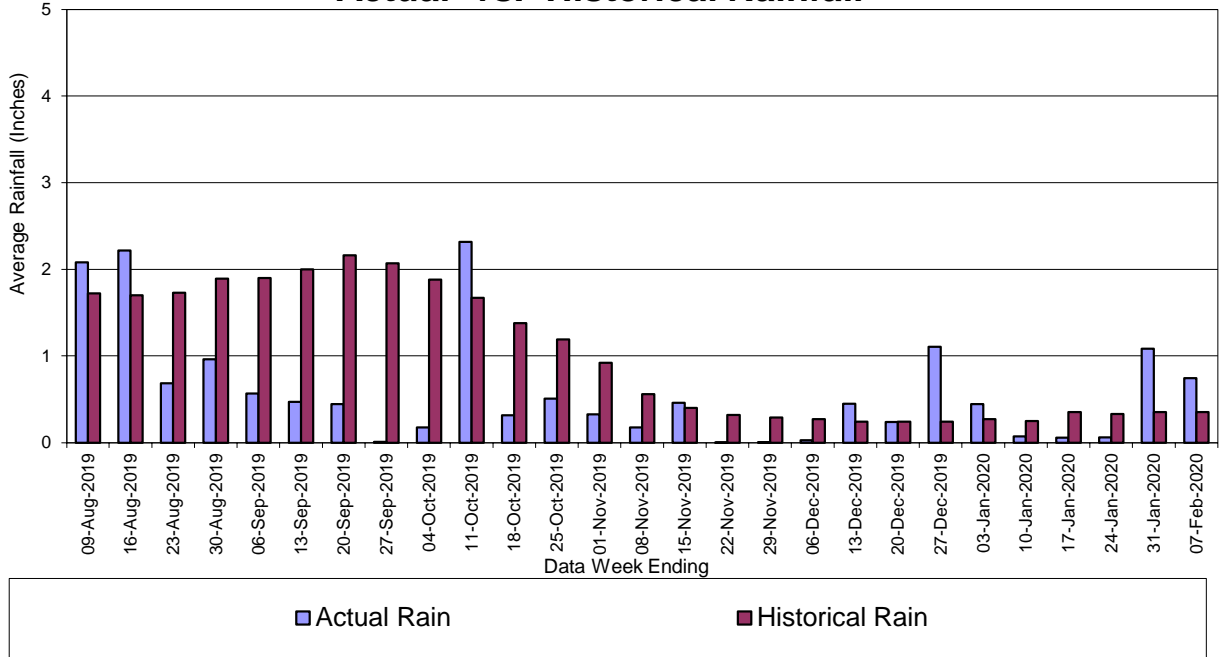
Rainfall Formula Amount	-133 cfs
Last Week's Rainfall Formula	-212 cfs
Pre-project Mean Discharge	110 cfs

Rainfall Excess Terms	RL1 0.88	RL2 -1.15	RL3	0.55
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**COMMENT: S7 estimated evap data and S140 estimated evap data were used. ENP evap data were missing**

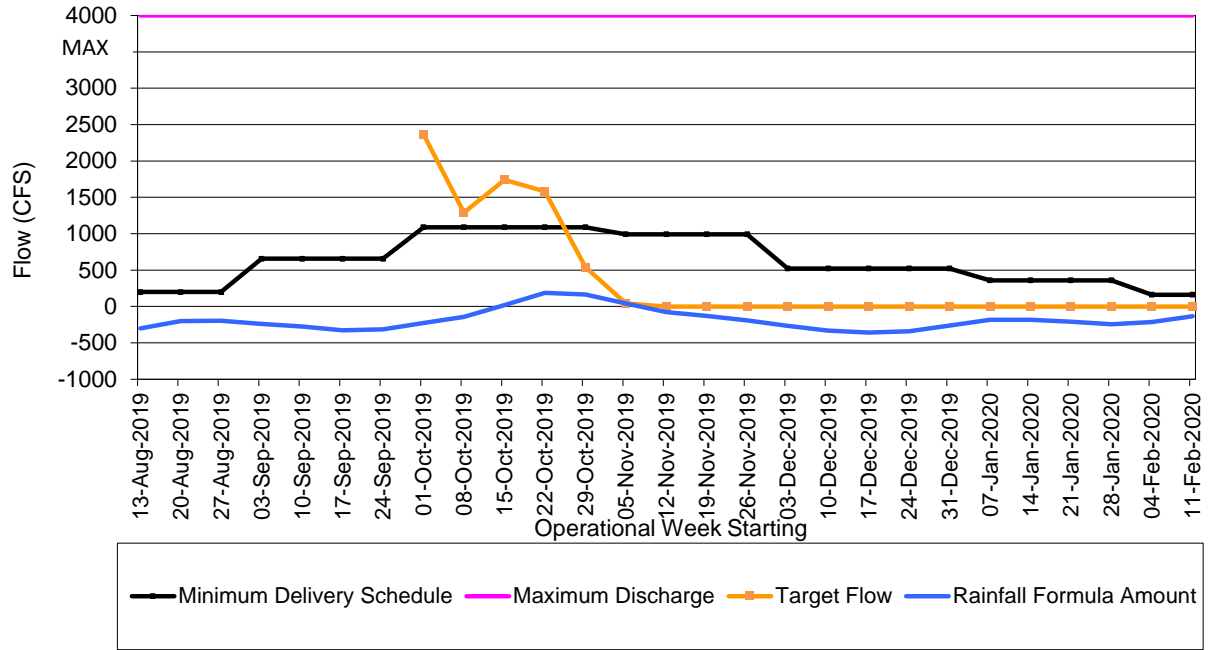
**\*NOTE: Actual discharges may vary from target discharges because of changing hydrologic conditions.**

## Shark River Slough Actual vs. Historical Rainfall



■ Actual Rain                      ■ Historical Rain

## Deliveries to Shark River Slough Computed by Rainfall Plan



— Minimum Delivery Schedule    — Maximum Discharge    — Target Flow    — Rainfall Formula Amount

## WCA-3A RAINFALL-BASED MANAGEMENT PLAN

**Target Flow February 18, 2020 to February 24, 2020 0 cfs**

The target flow is distributed from east to west (S-333, S-12D, S-12C, S-12B, and S-12A) to keep WCA 3A releases away from sub-population A of the Cape Sable seaside sparrow

Rainfall Formula Amount 0 cfs  
Regulatory Discharge 0 cfs  
Potential Regulatory Discharge 0 cfs

-----Data Summary -----

	February 8, 2020	to	February 14, 2020
WCA-3A Stage (end of week)	9.39		ft-NGVD
Angel's	5.28		ft-NGVD
G-3273	5.98		ft-NGVD

<u>Station</u>	<u>Rainfall (in)</u>	<u>Pan Evaporation (in)</u>
NEXRAD Rain for WCA-3A and S7 evaporation	0.03	1.36
S-140		1.25
ENP		M
This Week's Avg	0.03	1.30
Pre-Project Avg	0.35	1.01

----- Regulatory Discharge Calculation -----

<b>WCA-3A is in Zone E</b>	<b>Discharge Coeff. (cfs/ft) =</b>	<b>2500</b>
Regulatory discharge is		0 cfs
Distance to Bottom of Current Zone	N/A	feet
Distance to Top of Current Zone		0.33 feet

-----Potential Regulatory Discharge Considering Upstream Water Levels-----

	Stage (ft-NGVD)	Regulation Stage (ft-NGVD)	Excess Storage (ac-ft)	Depth (ft)
WCA-1	16.72	16.68	7,000	
WCA-2A	11.88	11.00	46,800	
Others			0	
Total Storage Adjustment			53,800	0.13
WCA-3A	9.39			
Adjusted WCA-3A	9.52			

<b>Adjusted WCA-3A is in Zone E</b>	<b>Discharge Coeff. (cfs/ft) =</b>	<b>2500</b>
Potential regulatory discharge		0 cfs
Distance to Bottom of Current Zone		-0.04 feet
Distance to Top of Current Zone		0.20 feet

-----Statistical Parameters -----

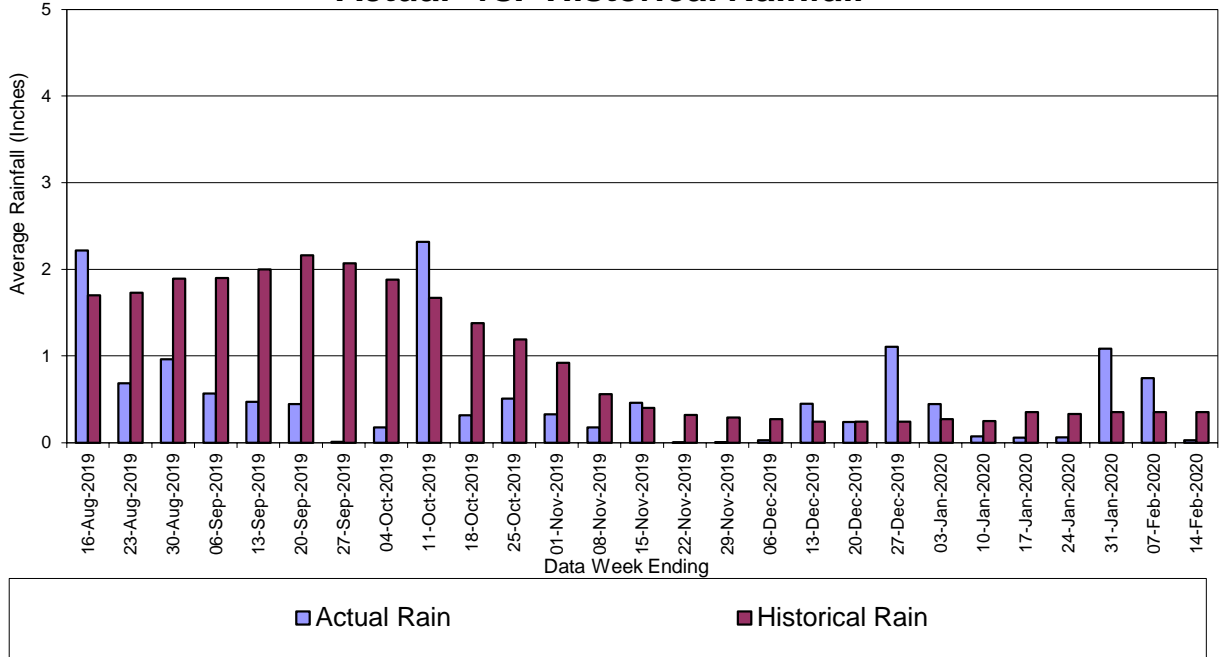
Rainfall Formula Amount	-140 cfs
Last Week's Rainfall Formula	-133 cfs
Pre-project Mean Discharge	88 cfs

Rainfall Excess Terms	RL1 -0.31	RL2 -0.55	RL3 0.96
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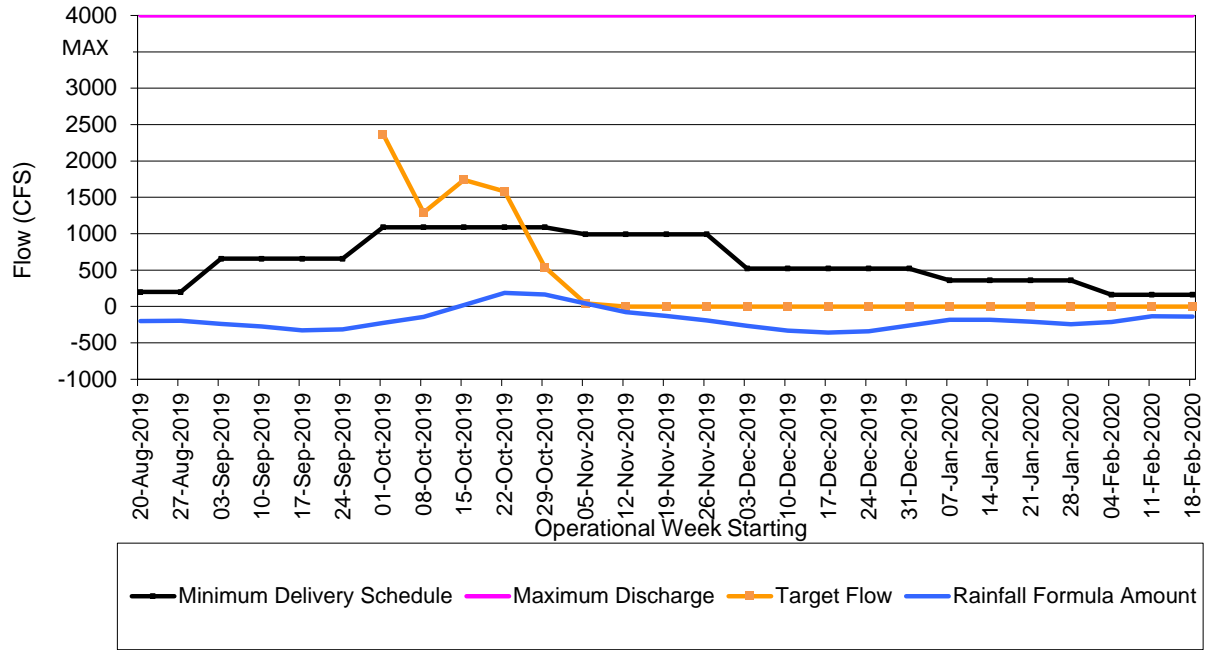
**COMMENT: S7 estimated evap data and S140 estimated evap data were used. ENP evap data were missing**

**\*NOTE: Actual discharges may vary from target discharges because of changing hydrologic conditions.**

## Shark River Slough Actual vs. Historical Rainfall



## Deliveries to Shark River Slough Computed by Rainfall Plan



## WCA-3A RAINFALL-BASED MANAGEMENT PLAN

**Target Flow February 25, 2020 to March 2, 2020** **0 cfs**

The target flow is distributed from east to west (S-333, S-12D, S-12C, S-12B, and S-12A) to keep WCA 3A releases away from sub-population A of the Cape Sable seaside sparrow

Rainfall Formula Amount 0 cfs  
Regulatory Discharge 0 cfs  
Potential Regulatory Discharge 0 cfs

<b>----Data Summary ----</b>	<b>February 15, 2020</b>	to	<b>February 21, 2020</b>
WCA-3A Stage (end of week)	9.30		ft-NGVD
Angel's	5.29		ft-NGVD
G-3273	5.90		ft-NGVD

<u>Station</u>	<u>Rainfall (in)</u>	<u>Pan Evaporation (in)</u>
NEXRAD Rain for WCA-3A and S7 evaporation	0.15	1.14
S-140		1.31
ENP		M
This Week's Avg	0.15	1.23
Pre-Project Avg	0.38	1.08

**---- Regulatory Discharge Calculation ----**

<b>WCA-3A is in Zone E</b>	<b>Discharge Coeff. (cfs/ft) =</b>	<b>2500</b>
Regulatory discharge is		0 cfs
Distance to Bottom of Current Zone	N/A	feet
Distance to Top of Current Zone		0.37 feet

**----Potential Regulatory Discharge Considering Upstream Water Levels----**

	Stage (ft-NGVD)	Regulation Stage (ft-NGVD)	Excess Storage (ac-ft)	Depth (ft)
WCA-1	16.75	16.61	14,000	
WCA-2A	11.85	11.00	42,900	
Others			0	
Total Storage Adjustment			56,900	0.14
WCA-3A	9.30			
Adjusted WCA-3A	9.44			

<b>Adjusted WCA-3A is in Zone E</b>	<b>Discharge Coeff. (cfs/ft) =</b>	<b>2500</b>
Potential regulatory discharge		0 cfs
Distance to Bottom of Current Zone		-0.04 feet
Distance to Top of Current Zone		0.24 feet

**----Statistical Parameters ----**

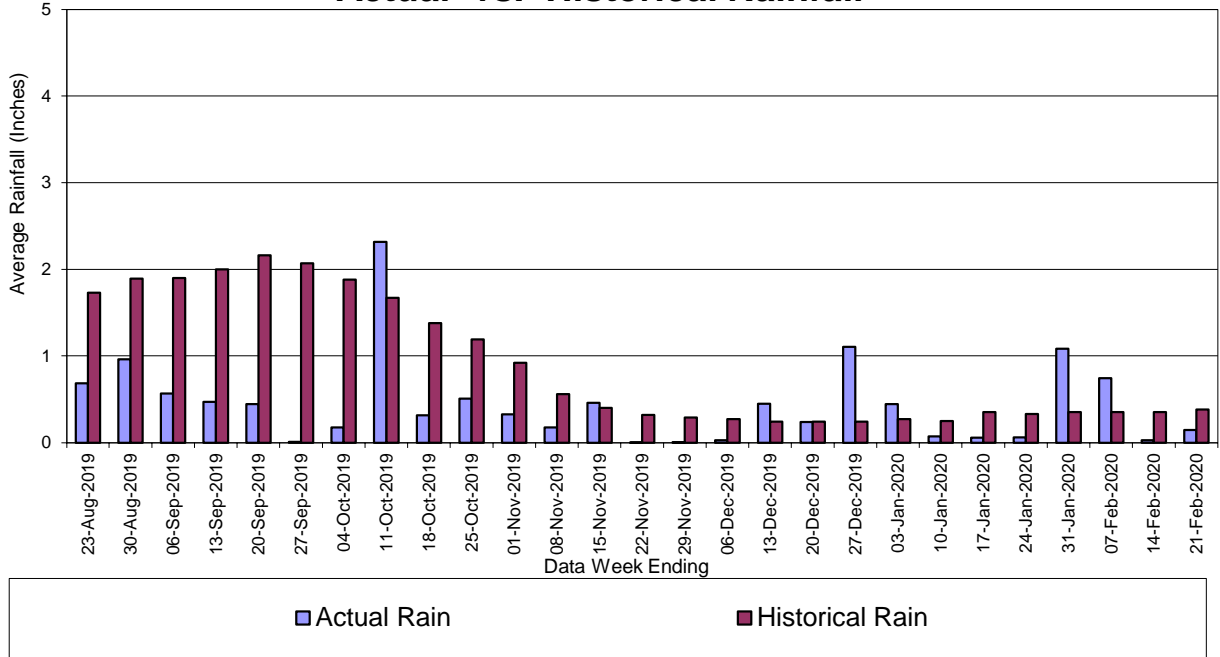
Rainfall Formula Amount	-180 cfs
Last Week's Rainfall Formula	-140 cfs
Pre-project Mean Discharge	69 cfs

Rainfall Excess Terms	RL1 -0.91	RL2 0.05	RL3 0.51
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**COMMENT: S7 estimated evap data and S140 estimated evap data were used. ENP evap data were missing**

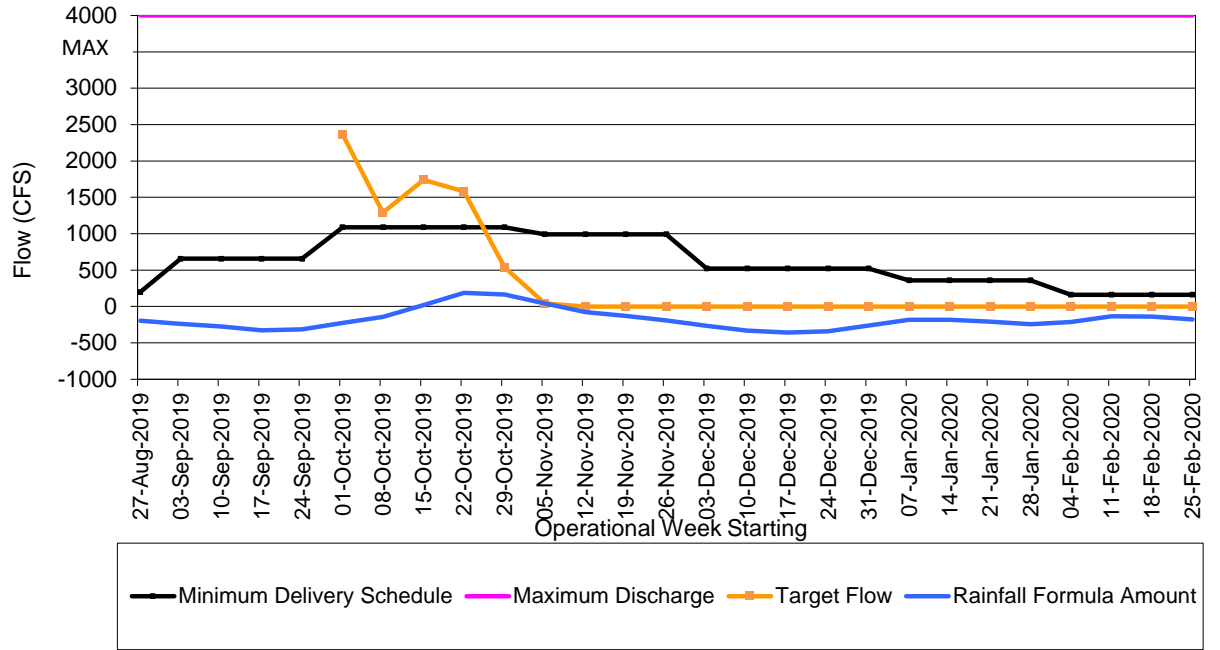
**\*NOTE: Actual discharges may vary from target discharges because of changing hydrologic conditions.**

## Shark River Slough Actual vs. Historical Rainfall



■ Actual Rain                      ■ Historical Rain

## Deliveries to Shark River Slough Computed by Rainfall Plan



— Minimum Delivery Schedule    — Maximum Discharge    — Target Flow    — Rainfall Formula Amount



## WCA-3A RAINFALL-BASED MANAGEMENT PLAN

**Target Flow March 3, 2020 to March 9, 2020 0 cfs**

The target flow is distributed from east to west (S-333, S-12D, S-12C, S-12B, and S-12A) to keep WCA 3A releases away from sub-population A of the Cape Sable seaside sparrow

Rainfall Formula Amount 0 cfs  
 Regulatory Discharge 0 cfs  
 Potential Regulatory Discharge 0 cfs

**----Data Summary ----**

	February 22, 2020	to	February 28, 2020
WCA-3A Stage (end of week)	9.24		ft-NGVD
Angel's	5.02		ft-NGVD
G-3273	5.61		ft-NGVD

<u>Station</u>	<u>Rainfall (in)</u>	<u>Pan Evaporation (in)</u>
NEXRAD Rain for WCA-3A and S7 evaporation	0.21	1.41
S-140		1.39
ENP		M
This Week's Avg	0.21	1.40
Pre-Project Avg	0.40	1.15

**---- Regulatory Discharge Calculation ----**

<b>WCA-3A is in Zone E</b>	<b>Discharge Coeff. (cfs/ft) =</b>	<b>2500</b>
Regulatory discharge is		0 cfs
Distance to Bottom of Current Zone	N/A	feet
Distance to Top of Current Zone		0.39 feet

**----Potential Regulatory Discharge Considering Upstream Water Levels----**

	Stage (ft-NGVD)	Regulation Stage (ft-NGVD)	Excess Storage (ac-ft)	Depth (ft)
WCA-1	16.67	16.53	21,000	
WCA-2A	11.80	11.00	42,900	
Others			0	
Total Storage Adjustment			63,900	0.18
WCA-3A	9.24			
Adjusted WCA-3A	9.42			

<b>Adjusted WCA-3A is in Zone E</b>	<b>Discharge Coeff. (cfs/ft) =</b>	<b>2500</b>
Potential regulatory discharge		0 cfs
Distance to Bottom of Current Zone		-0.04 feet
Distance to Top of Current Zone		0.21 feet

**----Statistical Parameters ----**

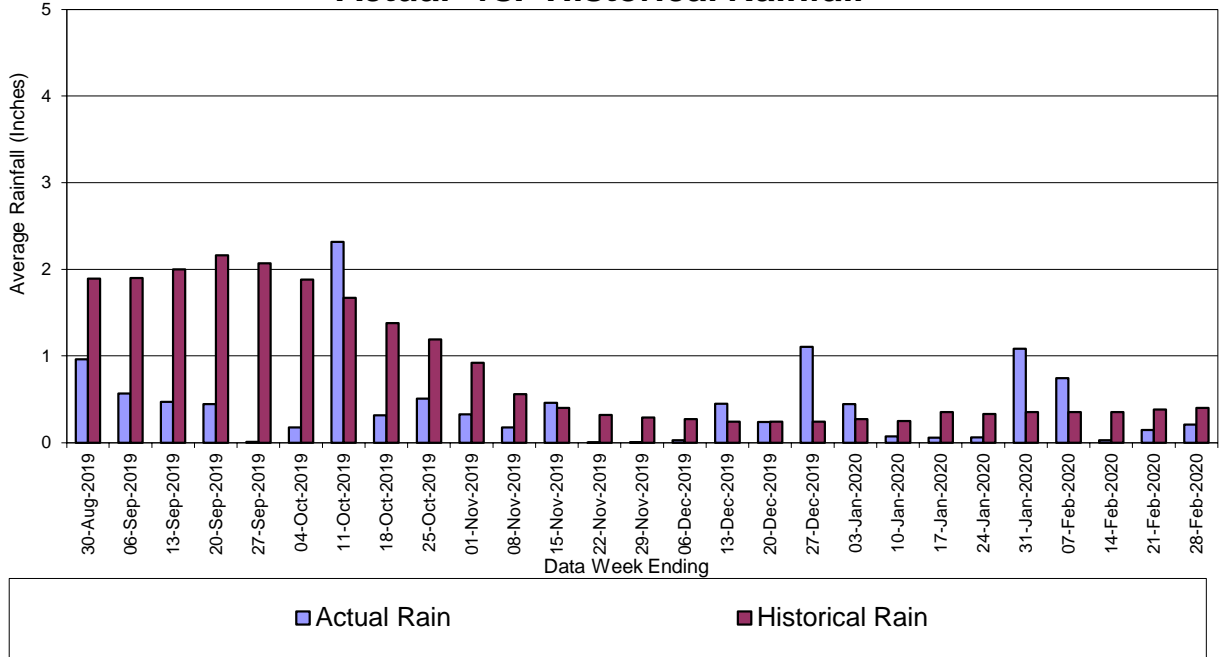
Rainfall Formula Amount	-213 cfs
Last Week's Rainfall Formula	-180 cfs
Pre-project Mean Discharge	50 cfs

Rainfall Excess Terms	RL1 -0.74	RL2 -0.09	RL3	0.12
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**COMMENT: S7 estimated evap data and S140 estimated evap data were used. ENP evap data were missing**

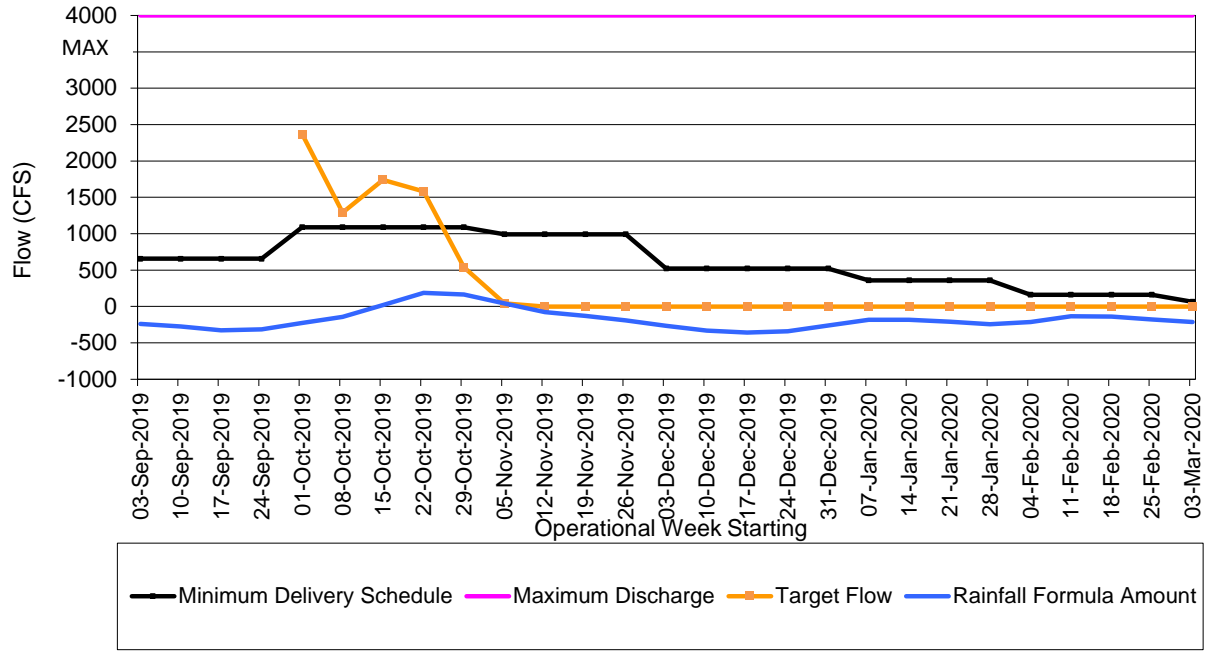
**\*NOTE: Actual discharges may vary from target discharges because of changing hydrologic conditions.**

## Shark River Slough Actual vs. Historical Rainfall



■ Actual Rain                      ■ Historical Rain

## Deliveries to Shark River Slough Computed by Rainfall Plan



— Minimum Delivery Schedule    — Maximum Discharge    — Target Flow    — Rainfall Formula Amount

## WCA-3A RAINFALL-BASED MANAGEMENT PLAN

**Target Flow March 10, 2020 to March 16, 2020 0 cfs**

The target flow is distributed from east to west (S-333, S-12D, S-12C, S-12B, and S-12A) to keep WCA 3A releases away from sub-population A of the Cape Sable seaside sparrow

Rainfall Formula Amount 0 cfs  
Regulatory Discharge 0 cfs  
Potential Regulatory Discharge 0 cfs

**----Data Summary ----**

	February 29, 2020	to	March 6, 2020
WCA-3A Stage (end of week)	9.12		ft-NGVD
Angel's	4.91		ft-NGVD
G-3273	5.48		ft-NGVD

<u>Station</u>	<u>Rainfall (in)</u>	<u>Pan Evaporation (in)</u>
NEXRAD Rain for WCA-3A and S7 evaporation	0.00	1.43
S-140		1.50
ENP		M
This Week's Avg	0.00	1.47
Pre-Project Avg	0.33	1.22

**---- Regulatory Discharge Calculation ----**

<b>WCA-3A is in Zone E</b>	<b>Discharge Coeff. (cfs/ft) =</b>	<b>2500</b>
Regulatory discharge is		0 cfs
Distance to Bottom of Current Zone	N/A	feet
Distance to Top of Current Zone		0.47 feet

**----Potential Regulatory Discharge Considering Upstream Water Levels----**

	Stage (ft-NGVD)	Regulation Stage (ft-NGVD)	Excess Storage (ac-ft)	Depth (ft)
WCA-1	16.58	16.46	13,700	
WCA-2A	11.71	11.00	35,680	
Others			0	
Total Storage Adjustment			49,380	0.14
WCA-3A	9.12			
Adjusted WCA-3A	9.26			

<b>Adjusted WCA-3A is in Zone E</b>	<b>Discharge Coeff. (cfs/ft) =</b>	<b>2500</b>
Potential regulatory discharge		0 cfs
Distance to Bottom of Current Zone		-0.04 feet
Distance to Top of Current Zone		0.33 feet

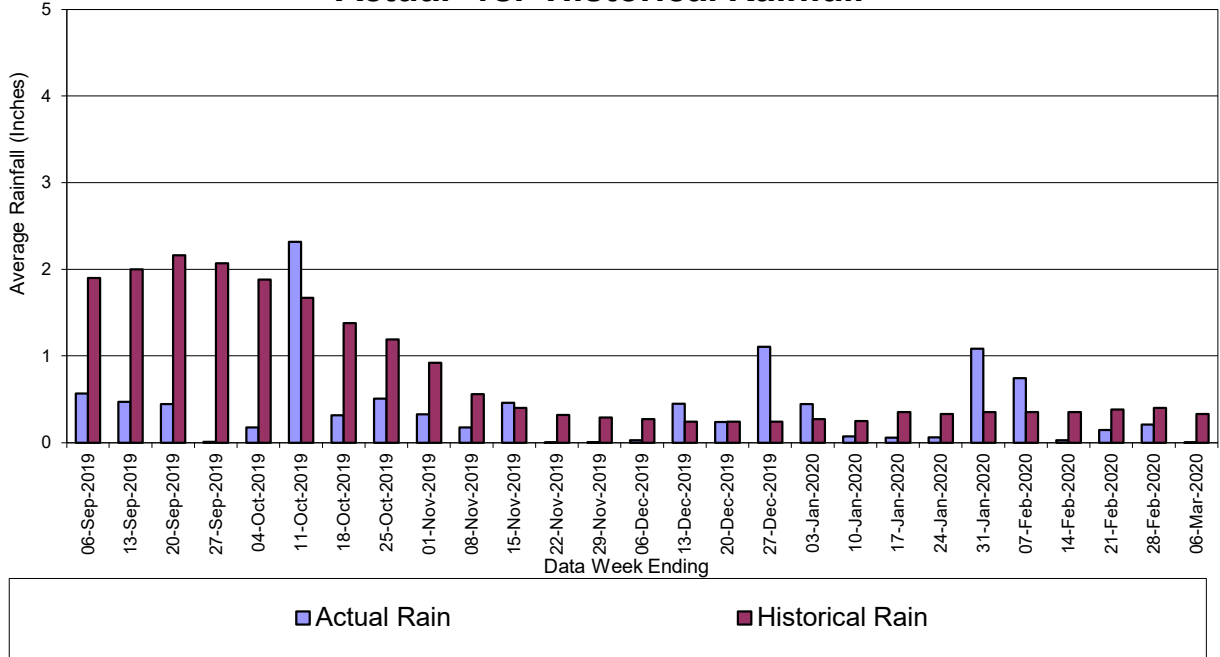
**----Statistical Parameters ----**

Rainfall Formula Amount		-252 cfs
Last Week's Rainfall Formula		-213 cfs
Pre-project Mean Discharge		35 cfs
Rainfall Excess Terms		
RL1 -0.92	RL2 -0.03	RL3 -1.15

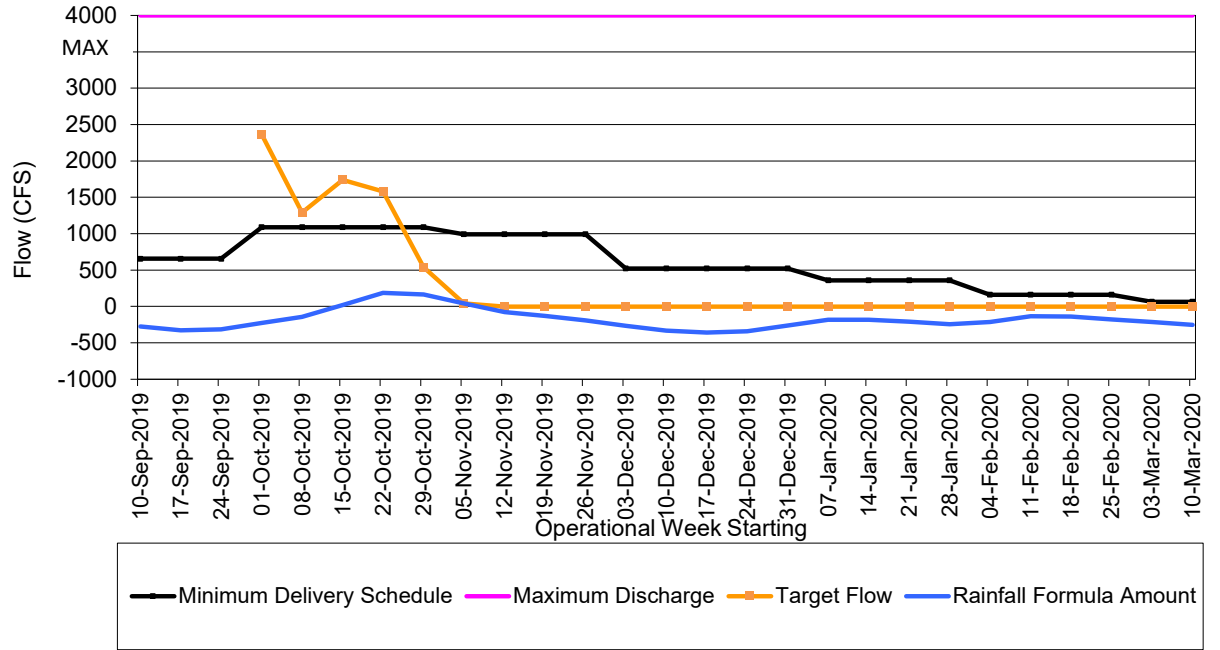
**COMMENT: S7 estimated evap data and S140 estimated evap data were used. ENP evap data were missing**

**\*NOTE: Actual discharges may vary from target discharges because of changing hydrologic conditions.**

## Shark River Slough Actual vs. Historical Rainfall



## Deliveries to Shark River Slough Computed by Rainfall Plan



## WCA-3A RAINFALL-BASED MANAGEMENT PLAN

**Target Flow March 17, 2020 to March 23, 2020 0 cfs**

The target flow is distributed from east to west (S-333, S-12D, S-12C, S-12B, and S-12A) to keep WCA 3A releases away from sub-population A of the Cape Sable seaside sparrow

Rainfall Formula Amount 0 cfs  
Regulatory Discharge 0 cfs  
Potential Regulatory Discharge 0 cfs

**-----Data Summary -----**

	March 7, 2020	to	March 13, 2020
WCA-3A Stage (end of week)	9.01		ft-NGVD
Angel's	4.60		ft-NGVD
G-3273	5.05		ft-NGVD

<u>Station</u>	<u>Rainfall (in)</u>	<u>Pan Evaporation (in)</u>
NEXRAD Rain for WCA-3A and S7 evaporation	0.06	1.38
S-140		1.55
ENP		M
This Week's Avg	0.06	1.47
Pre-Project Avg	0.43	1.29

**----- Regulatory Discharge Calculation -----**

<b>WCA-3A is in Zone E</b>	<b>Discharge Coeff. (cfs/ft) =</b>	<b>2500</b>
Regulatory discharge is		0 cfs
Distance to Bottom of Current Zone	N/A	feet
Distance to Top of Current Zone		0.53 feet

**-----Potential Regulatory Discharge Considering Upstream Water Levels-----**

	Stage (ft-NGVD)	Regulation Stage (ft-NGVD)	Excess Storage (ac-ft)	Depth (ft)
WCA-1	16.53	16.38	20,100	
WCA-2A	11.65	11.00	29,040	
Others			0	
Total Storage Adjustment			49,140	0.16
WCA-3A	9.01			
Adjusted WCA-3A	9.17			

<b>Adjusted WCA-3A is in Zone E</b>	<b>Discharge Coeff. (cfs/ft) =</b>	<b>2500</b>
Potential regulatory discharge		0 cfs
Distance to Bottom of Current Zone		-0.04 feet
Distance to Top of Current Zone		0.37 feet

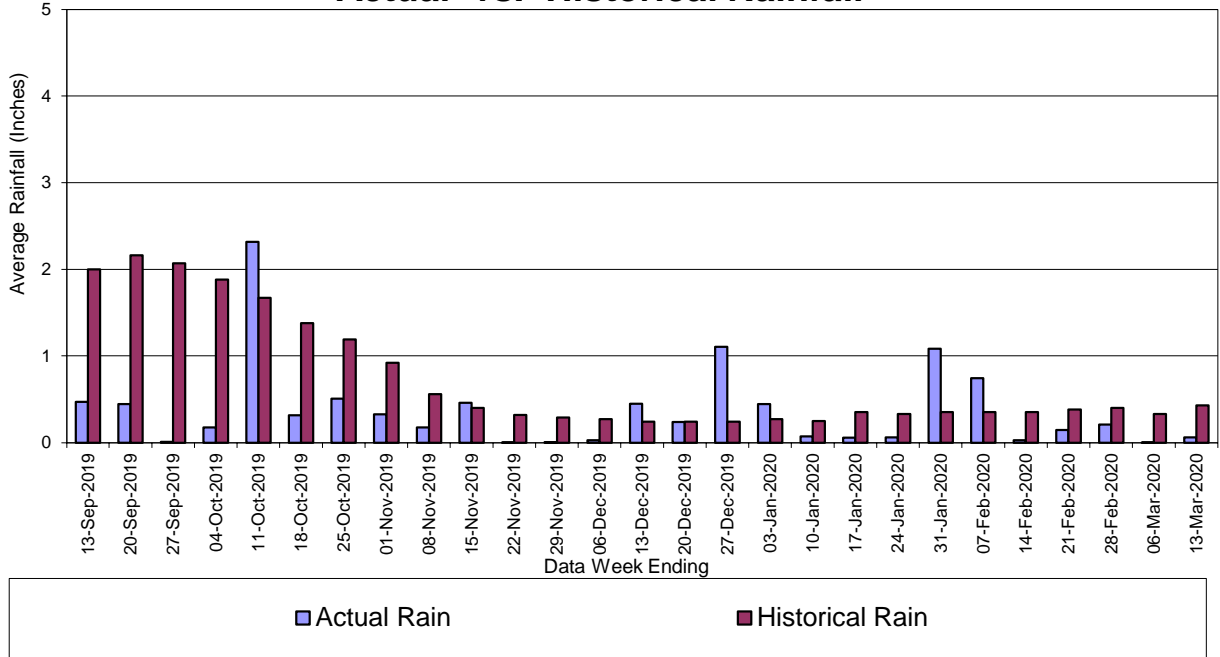
**-----Statistical Parameters -----**

Rainfall Formula Amount		-290 cfs
Last Week's Rainfall Formula		-252 cfs
Pre-project Mean Discharge		25 cfs
Rainfall Excess Terms		
RL1 -1.04	RL2 -1.06	RL3 -0.55

**COMMENT: S7 estimated evap data and S140 estimated evap data were used. ENP evap data were missing**

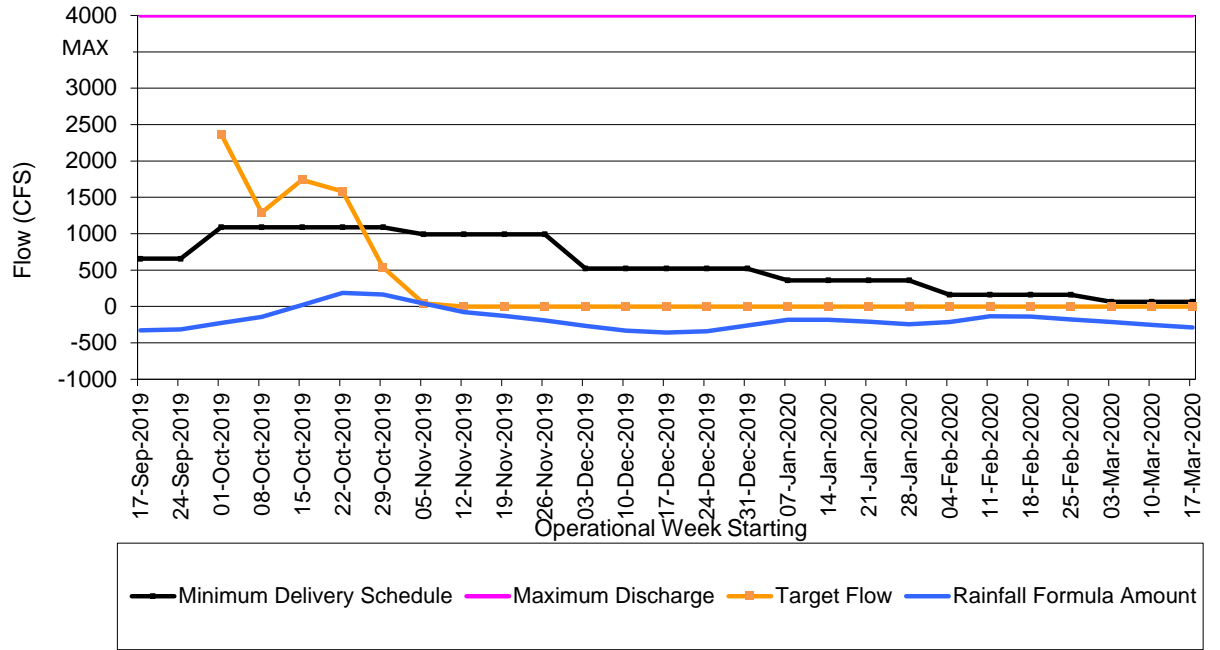
**\*NOTE: Actual discharges may vary from target discharges because of changing hydrologic conditions.**

## Shark River Slough Actual vs. Historical Rainfall



■ Actual Rain                      ■ Historical Rain

## Deliveries to Shark River Slough Computed by Rainfall Plan



— Minimum Delivery Schedule    — Maximum Discharge    — Target Flow    — Rainfall Formula Amount

## WCA-3A RAINFALL-BASED MANAGEMENT PLAN

**Target Flow March 24, 2020 to March 30, 2020 0 cfs**

The target flow is distributed from east to west (S-333, S-12D, S-12C, S-12B, and S-12A) to keep WCA 3A releases away from sub-population A of the Cape Sable seaside sparrow

Rainfall Formula Amount 0 cfs  
Regulatory Discharge 0 cfs  
Potential Regulatory Discharge 0 cfs

**----Data Summary ----**

	March 14, 2020	to	March 20, 2020
WCA-3A Stage (end of week)	8.89		ft-NGVD
Angel's	4.36		ft-NGVD
G-3273	4.71		ft-NGVD

<u>Station</u>	<u>Rainfall (in)</u>	<u>Pan Evaporation (in)</u>
NEXRAD Rain for WCA-3A and S7 evaporation	0.00	1.51
S-140		1.69
ENP		M
This Week's Avg	0.00	1.60
Pre-Project Avg	0.43	1.36

**---- Regulatory Discharge Calculation ----**

<b>WCA-3A is in Zone E</b>	<b>Discharge Coeff. (cfs/ft) =</b>	<b>2500</b>
Regulatory discharge is		0 cfs
Distance to Bottom of Current Zone	N/A	feet
Distance to Top of Current Zone		0.61 feet

**----Potential Regulatory Discharge Considering Upstream Water Levels----**

	Stage (ft-NGVD)	Regulation Stage (ft-NGVD)	Excess Storage (ac-ft)	Depth (ft)
WCA-1	16.42	16.31	13,400	
WCA-2A	11.53	11.00	22,400	
Others			0	
Total Storage Adjustment			35,800	0.12
WCA-3A	8.89			
Adjusted WCA-3A	9.01			

<b>Adjusted WCA-3A is in Zone E</b>	<b>Discharge Coeff. (cfs/ft) =</b>	<b>2500</b>
Potential regulatory discharge		0 cfs
Distance to Bottom of Current Zone		-0.04 feet
Distance to Top of Current Zone		0.49 feet

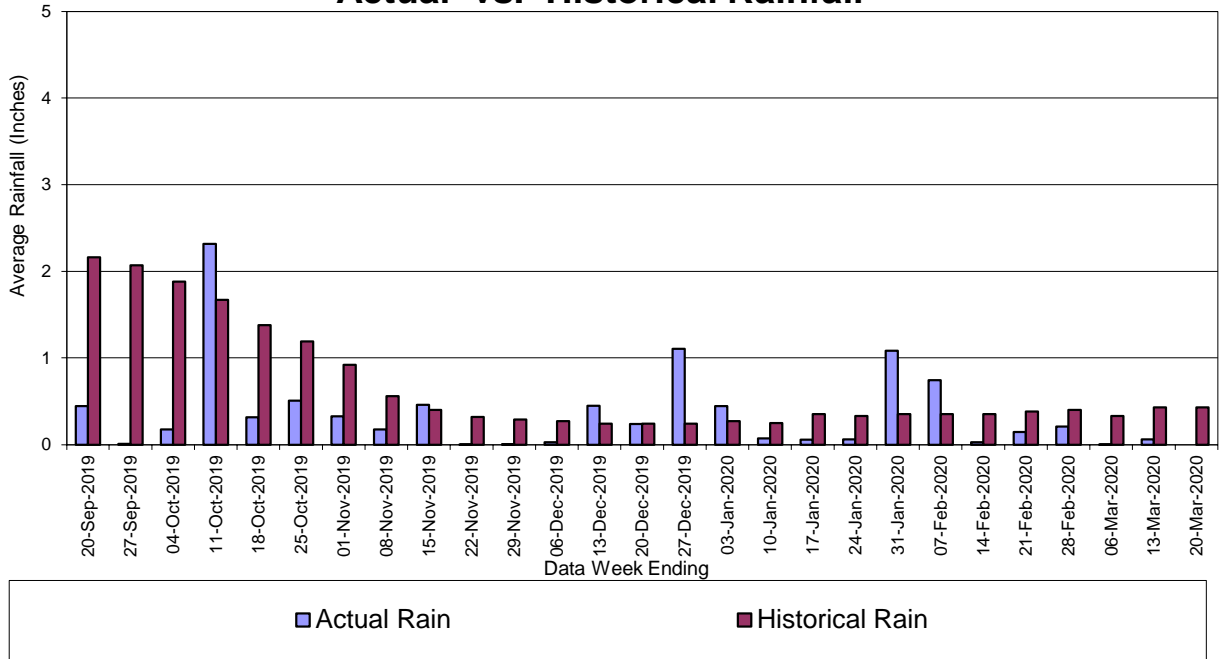
**----Statistical Parameters ----**

Rainfall Formula Amount		-318 cfs
Last Week's Rainfall Formula		-290 cfs
Pre-project Mean Discharge		26 cfs
Rainfall Excess Terms		
RL1 -1.13	RL2 -1.83	RL3 0.05

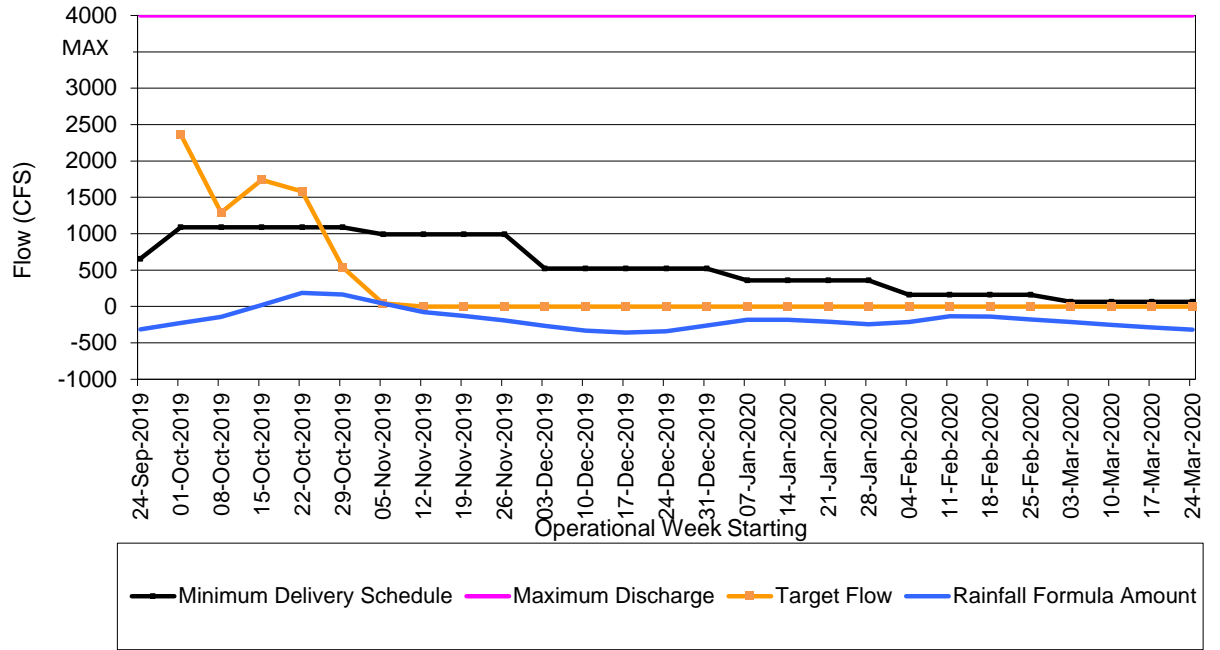
**COMMENT: S7 estimated evap data and S140 estimated evap data were used. ENP evap data were missing**

**\*NOTE: Actual discharges may vary from target discharges because of changing hydrologic conditions.**

## Shark River Slough Actual vs. Historical Rainfall



## Deliveries to Shark River Slough Computed by Rainfall Plan





**WCA-3A RAINFALL-BASED MANAGEMENT PLAN**

**Target Flow March 31, 2020 to April 6, 2020 0 cfs**

The target flow is distributed from east to west (S-333, S-12D, S-12C, S-12B, and S-12A) to keep WCA 3A releases away from sub-population A of the Cape Sable seaside sparrow

Rainfall Formula Amount 0 cfs  
Regulatory Discharge 0 cfs  
Potential Regulatory Discharge 0 cfs

**----Data Summary ----**

	<b>March 21, 2020</b>	<b>to</b>	<b>March 27, 2020</b>
WCA-3A Stage (end of week)	8.77		ft-NGVD
Angel's	4.10		ft-NGVD
G-3273	4.39		ft-NGVD

<u>Station</u>	<u>Rainfall (in)</u>	<u>Pan Evaporation (in)</u>
NEXRAD Rain for WCA-3A and S7 evaporation	0.00	1.67
S-140		1.67
ENP		M
This Week's Avg	0.00	1.67
Pre-Project Avg	0.54	1.41

**---- Regulatory Discharge Calculation ----**

<b>WCA-3A is in Zone E</b>	<b>Discharge Coeff. (cfs/ft) =</b>	<b>2500</b>
Regulatory discharge is		0 cfs
Distance to Bottom of Current Zone	N/A	feet
Distance to Top of Current Zone		0.68 feet

**----Potential Regulatory Discharge Considering Upstream Water Levels----**

	Stage (ft-NGVD)	Regulation Stage (ft-NGVD)	Excess Storage (ac-ft)	Depth (ft)
WCA-1	16.33	16.23	13,000	
WCA-2A	11.41	11.00	17,540	
Others			0	
Total Storage Adjustment			30,540	0.12
WCA-3A	8.77			
Adjusted WCA-3A	8.89			

<b>Adjusted WCA-3A is in Zone E</b>	<b>Discharge Coeff. (cfs/ft) =</b>	<b>2500</b>
Potential regulatory discharge		0 cfs
Distance to Bottom of Current Zone		-0.04 feet
Distance to Top of Current Zone		0.56 feet

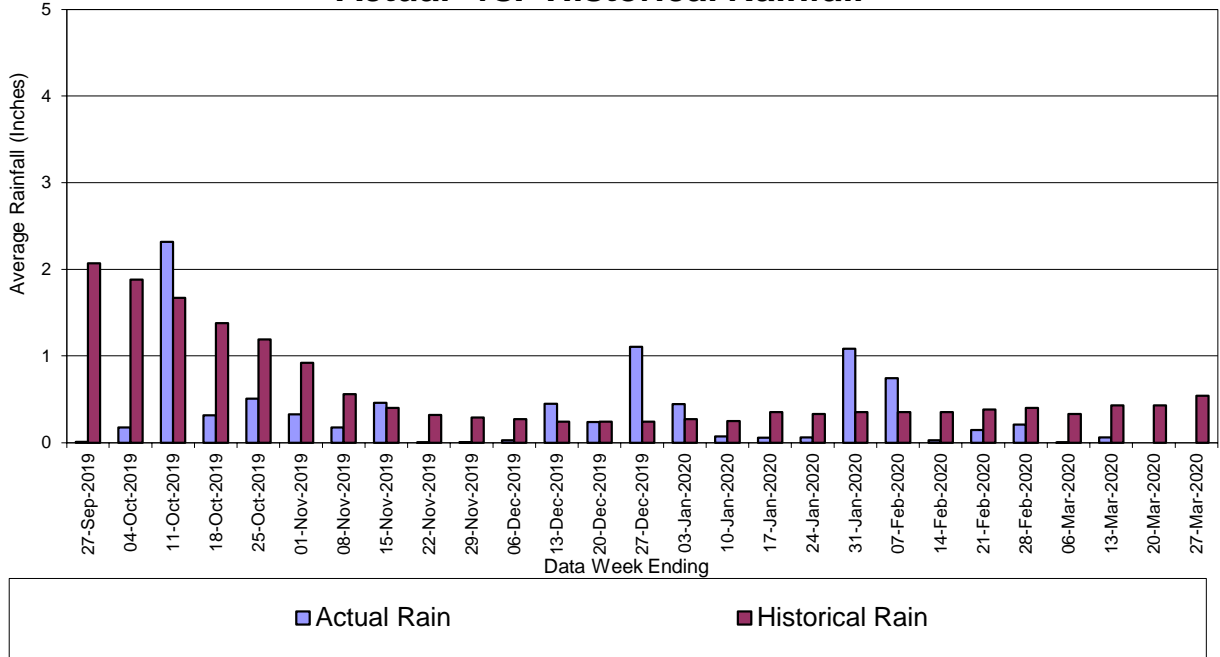
**----Statistical Parameters ----**

Rainfall Formula Amount		-353 cfs			
Last Week's Rainfall Formula		-318 cfs			
Pre-project Mean Discharge		31 cfs			
Rainfall Excess Terms					
RL1	-1.37	RL2	-1.78	RL3	-0.09

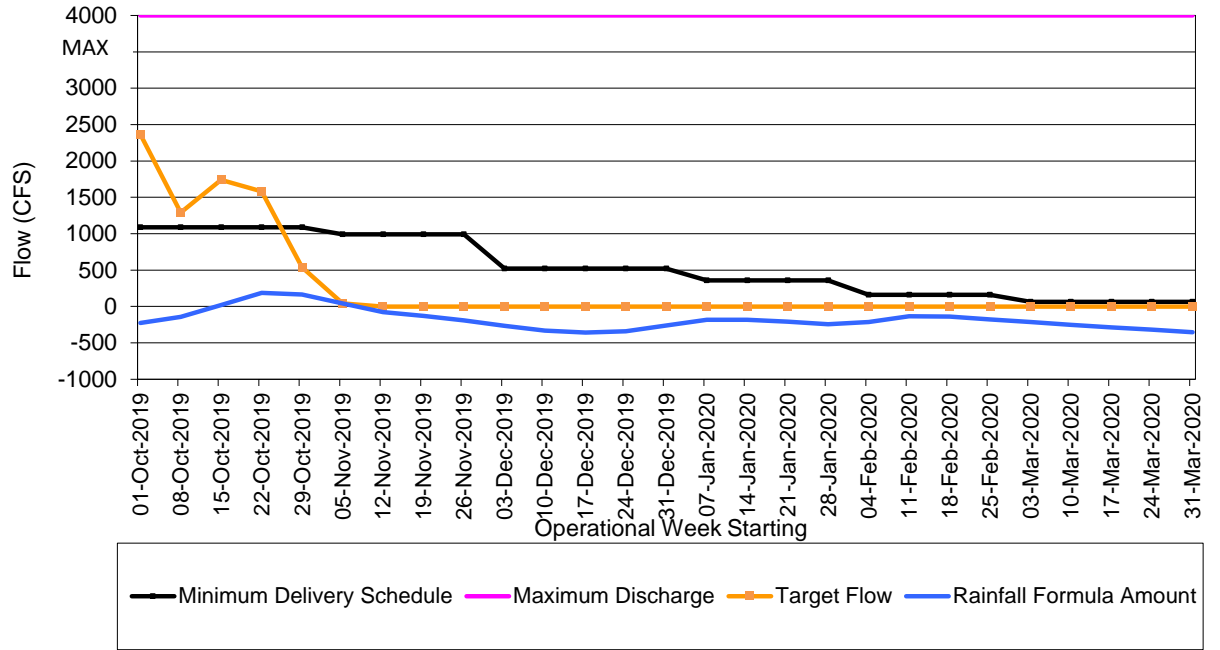
**COMMENT: S7 estimated evap data and S140 estimated evap data were used. ENP evap data were missing**

**\*NOTE: Actual discharges may vary from target discharges because of changing hydrologic conditions.**

## Shark River Slough Actual vs. Historical Rainfall



## Deliveries to Shark River Slough Computed by Rainfall Plan



## WCA-3A RAINFALL-BASED MANAGEMENT PLAN

Target Flow April 7, 2020 to April 13, 2020 0 cfs

The target flow is distributed from east to west (S-333, S-12D, S-12C, S-12B, and S-12A) to keep WCA 3A releases away from sub-population A of the Cape Sable seaside sparrow

Rainfall Formula Amount 0 cfs  
Regulatory Discharge 0 cfs  
Potential Regulatory Discharge 0 cfs

-----Data Summary -----  
 March 28, 2020 to April 3, 2020

WCA-3A Stage (end of week)	8.66	ft-NGVD
Angel's	3.78	ft-NGVD
G-3273	4.07	ft-NGVD

Station	Rainfall (in)	Pan Evaporation (in)
NEXRAD Rain for WCA-3A and S7 evaporation	0.17	1.92
S-140		1.82
ENP		M
This Week's Avg	0.17	1.87
Pre-Project Avg	0.59	1.47

----- Regulatory Discharge Calculation -----

**WCA-3A is in Zone E** **Discharge Coeff. (cfs/ft) = 2500**

Regulatory discharge is	0 cfs
Distance to Bottom of Current Zone	N/A feet
Distance to Top of Current Zone	0.75 feet

-----Potential Regulatory Discharge Considering Upstream Water Levels-----

	Stage (ft-NGVD)	Regulation Stage (ft-NGVD)	Excess Storage (ac-ft)	Depth (ft)
WCA-1	16.21	16.16	6,300	
WCA-2A	11.31	11.00	12,680	
Others			0	
Total Storage Adjustment			18,980	0.07
WCA-3A	8.66			
Adjusted WCA-3A	8.73			

**Adjusted WCA-3A is in Zone E** **Discharge Coeff. (cfs/ft) = 2500**

Potential regulatory discharge	0 cfs
Distance to Bottom of Current Zone	-0.04 feet
Distance to Top of Current Zone	0.67 feet

-----Statistical Parameters -----

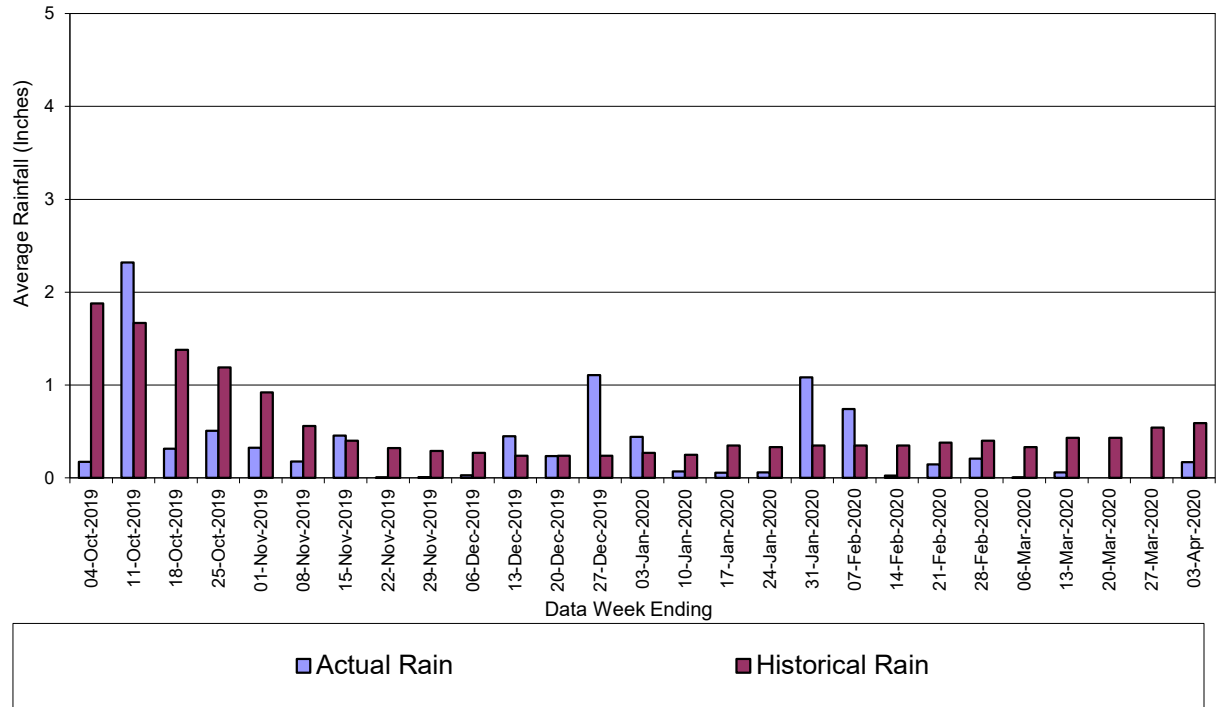
Rainfall Formula Amount	-394 cfs
Last Week's Rainfall Formula	-353 cfs
Pre-project Mean Discharge	32 cfs

Rainfall Excess Terms	RL1 -1.49	RL2 -2.05	RL3	-0.03
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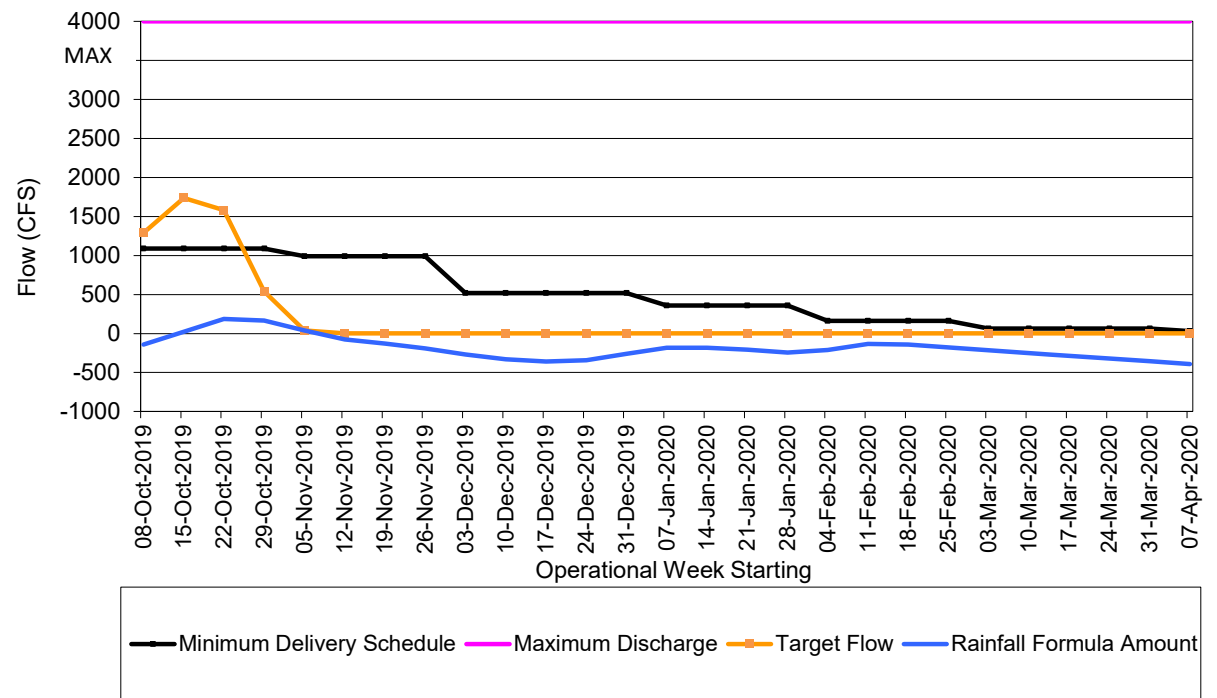
COMMENT: S7 estimated evap data and S140 estimated evap data were used. ENP evap data were missing

\*NOTE: Actual discharges may vary from target discharges because of changing hydrologic conditions.

## Shark River Slough Actual vs. Historical Rainfall



## Deliveries to Shark River Slough Computed by Rainfall Plan



**WCA-3A RAINFALL-BASED MANAGEMENT PLAN**

**Target Flow April 14, 2020 to April 20, 2020** **0 cfs**

The target flow is distributed from east to west (S-333, S-12D, S-12C, S-12B, and S-12A) to keep WCA 3A releases away from sub-population A of the Cape Sable seaside sparrow

Rainfall Formula Amount	0 cfs
<input checked="" type="checkbox"/> Regulatory Discharge	0 cfs
<input type="checkbox"/> Potential Regulatory Discharge	0 cfs

<b>----Data Summary ----</b>	<b>April 4, 2020</b>	<b>to</b>	<b>April 10, 2020</b>
WCA-3A Stage (end of week)	8.56		ft-NGVD
Angel's	3.52		ft-NGVD
G-3273	3.76		ft-NGVD

<u>Station</u>	<u>Rainfall (in)</u>	<u>Pan Evaporation (in)</u>
NEXRAD Rain for WCA-3A and S7 evaporation	0.00	1.66
S-140		1.82
ENP		M
This Week's Avg	<hr/> 0.00	<hr/> 1.74
Pre-Project Avg	0.60	1.51

**---- Regulatory Discharge Calculation ----**

<b>WCA-3A is in Zone E</b>	<b>Discharge Coeff. (cfs/ft) =</b>	<b>2500</b>
Regulatory discharge is		0 cfs
Distance to Bottom of Current Zone	N/A	feet
Distance to Top of Current Zone		0.80 feet

**----Potential Regulatory Discharge Considering Upstream Water Levels----**

	Stage (ft-NGVD)	Regulation Stage (ft-NGVD)	Excess Storage (ac-ft)	Depth (ft)
WCA-1	16.13	16.08	6,300	
WCA-2A	11.28	11.00	10,250	
Others			0	
Total Storage Adjustment			<hr/> 16,550	0.06
WCA-3A	8.56			
Adjusted WCA-3A	8.62			

<b>Adjusted WCA-3A is in Zone E</b>	<b>Discharge Coeff. (cfs/ft) =</b>	<b>2500</b>
Potential regulatory discharge		0 cfs
Distance to Bottom of Current Zone		-0.04 feet
Distance to Top of Current Zone		0.74 feet

**----Statistical Parameters ----**

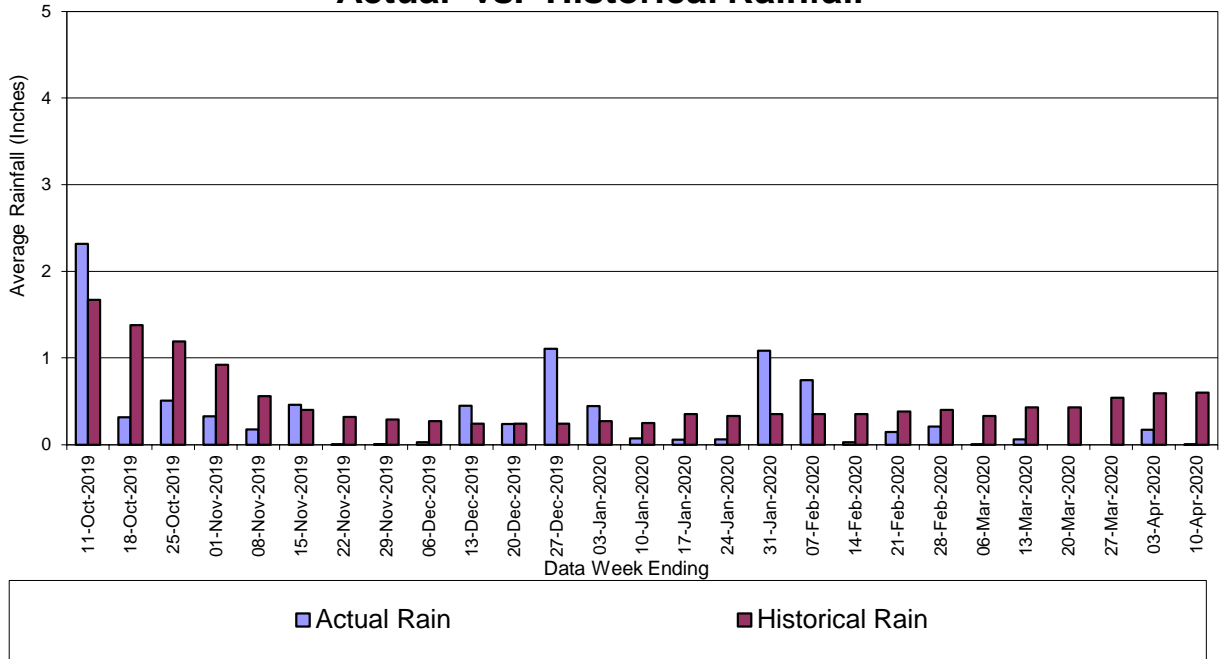
Rainfall Formula Amount	-435 cfs
Last Week's Rainfall Formula	-394 cfs
Pre-project Mean Discharge	31 cfs

Rainfall Excess Terms	RL1 -1.52	RL2 -2.41	RL3	-1.06
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**COMMENT: S7 estimated evap data and S140 estimated evap data were used. ENP evap data were missing**

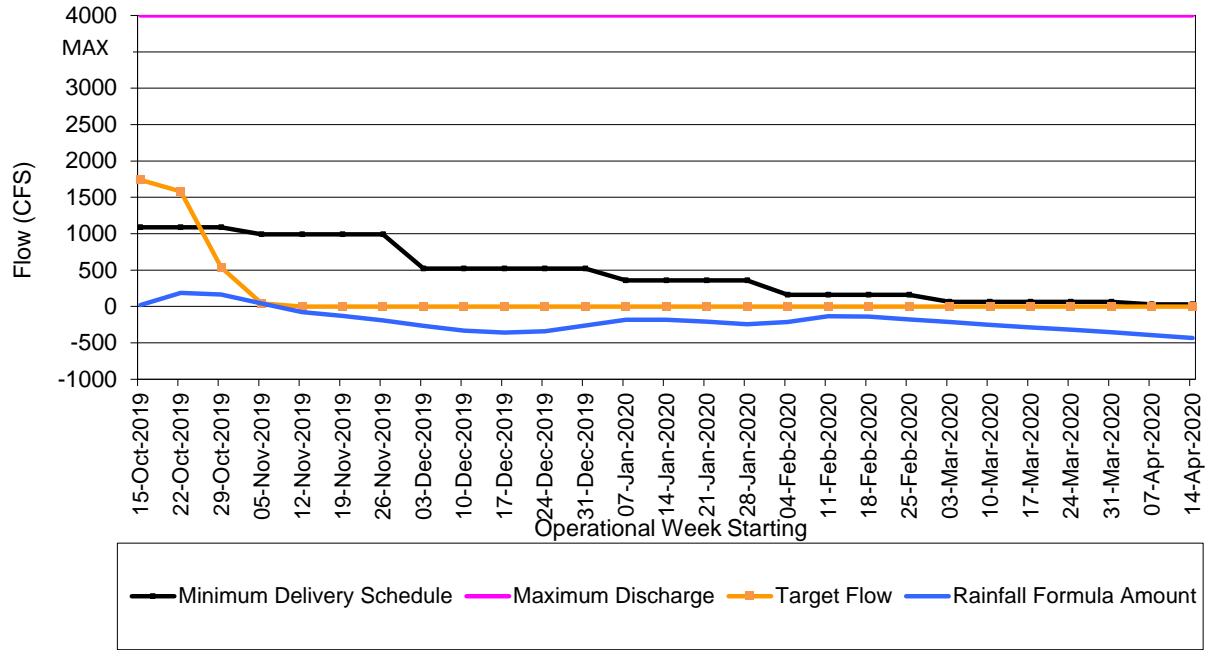
**\*NOTE: Actual discharges may vary from target discharges because of changing hydrologic conditions.**

## Shark River Slough Actual vs. Historical Rainfall



■ Actual Rain                      ■ Historical Rain

## Deliveries to Shark River Slough Computed by Rainfall Plan



— Minimum Delivery Schedule    — Maximum Discharge    — Target Flow    — Rainfall Formula Amount

## WCA-3A RAINFALL-BASED MANAGEMENT PLAN

**Target Flow April 21, 2020 to April 27, 2020** **0 cfs**

The target flow is distributed from east to west (S-333, S-12D, S-12C, S-12B, and S-12A) to keep WCA 3A releases away from sub-population A of the Cape Sable seaside sparrow

Rainfall Formula Amount 0 cfs  
Regulatory Discharge 0 cfs  
Potential Regulatory Discharge 0 cfs

**----Data Summary ----**

	April 11, 2020	to	April 17, 2020
WCA-3A Stage (end of week)	8.63		ft-NGVD
Angel's	3.64		ft-NGVD
G-3273	3.95		ft-NGVD

<u>Station</u>	<u>Rainfall (in)</u>	<u>Pan Evaporation (in)</u>
NEXRAD Rain for WCA-3A and S7 evaporation	1.29	1.83
S-140		1.83
ENP		M
This Week's Avg	1.29	1.83
Pre-Project Avg	0.69	1.54

**---- Regulatory Discharge Calculation ----**

<b>WCA-3A is in Zone E</b>	<b>Discharge Coeff. (cfs/ft) =</b>	<b>2500</b>
Regulatory discharge is		0 cfs
Distance to Bottom of Current Zone	N/A	feet
Distance to Top of Current Zone		0.69 feet

**----Potential Regulatory Discharge Considering Upstream Water Levels----**

	Stage (ft-NGVD)	Regulation Stage (ft-NGVD)	Excess Storage (ac-ft)	Depth (ft)
WCA-1	15.99	16.01	0	
WCA-2A	11.14	11.00	4,100	
Others			0	
Total Storage Adjustment			4,100	0.02
WCA-3A	8.63			
Adjusted WCA-3A	8.65			

<b>Adjusted WCA-3A is in Zone E</b>	<b>Discharge Coeff. (cfs/ft) =</b>	<b>2500</b>
Potential regulatory discharge		0 cfs
Distance to Bottom of Current Zone		-0.04 feet
Distance to Top of Current Zone		0.67 feet

**----Statistical Parameters ----**

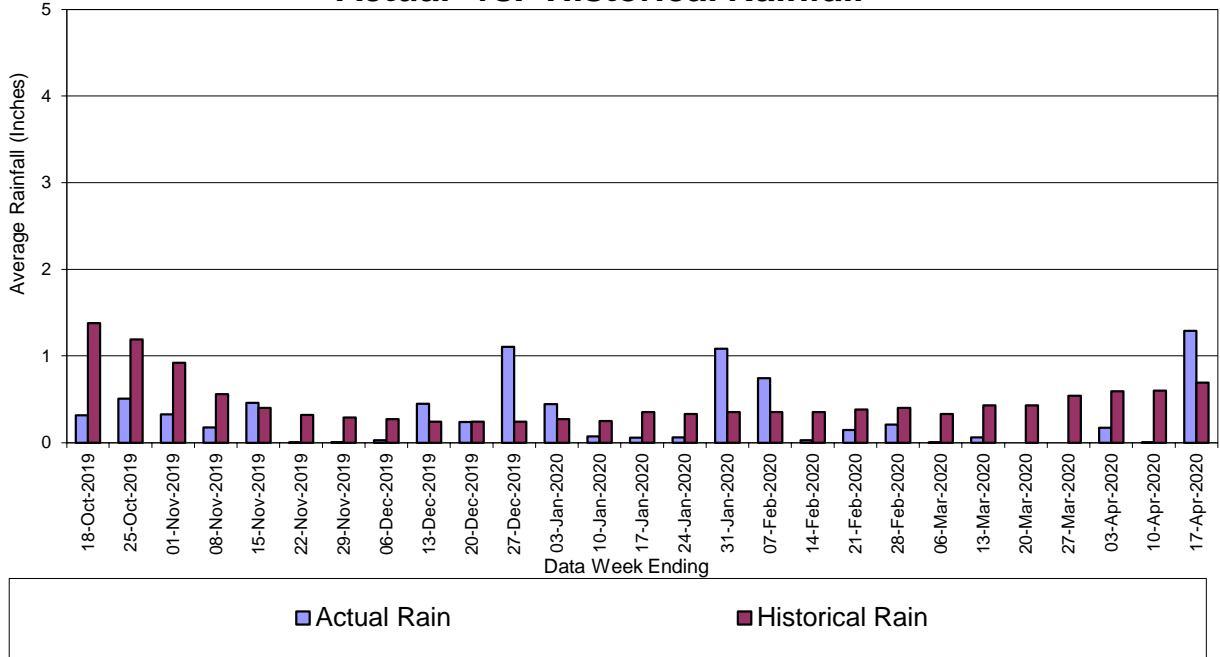
Rainfall Formula Amount	-414 cfs
Last Week's Rainfall Formula	-435 cfs
Pre-project Mean Discharge	29 cfs

Rainfall Excess Terms	RL1 -0.41	RL2 -2.62	RL3	-1.83
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**COMMENT: S7 estimated evap data and S140 estimated evap data were used. ENP evap data were missing**

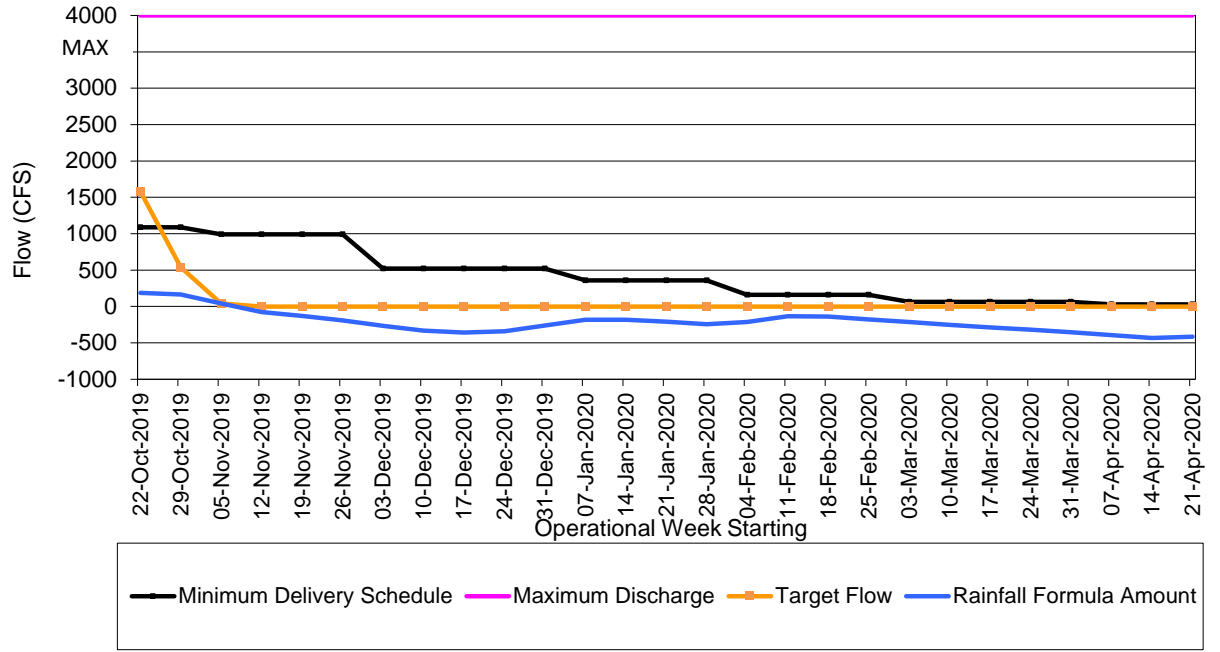
**\*NOTE: Actual discharges may vary from target discharges because of changing hydrologic conditions.**

## Shark River Slough Actual vs. Historical Rainfall



■ Actual Rain      ■ Historical Rain

## Deliveries to Shark River Slough Computed by Rainfall Plan



— Minimum Delivery Schedule    — Maximum Discharge    — Target Flow    — Rainfall Formula Amount



## WCA-3A RAINFALL-BASED MANAGEMENT PLAN

**Target Flow April 28, 2020 to May 4, 2020** **0 cfs**

The target flow is distributed from east to west (S-333, S-12D, S-12C, S-12B, and S-12A) to keep WCA 3A releases away from sub-population A of the Cape Sable seaside sparrow

	Rainfall Formula Amount	0 cfs
	<input checked="" type="checkbox"/> Regulatory Discharge	0 cfs
	<input type="checkbox"/> Potential Regulatory Discharge	0 cfs

-----Data Summary -----

	<b>April 18, 2020</b>	to	<b>April 24, 2020</b>
WCA-3A Stage (end of week)	8.52		ft-NGVD
Angel's	3.26		ft-NGVD
G-3273	3.50		ft-NGVD

Station	Rainfall (in)	Pan Evaporation (in)
NEXRAD Rain for WCA-3A and S7 evaporation	0.15	1.83
S-140		1.89
ENP		M
This Week's Avg	0.15	1.86
Pre-Project Avg	0.80	1.58

----- Regulatory Discharge Calculation -----

<b>WCA-3A is in Zone E</b>	<b>Discharge Coeff. (cfs/ft) =</b>	<b>2500</b>
Regulatory discharge is		0 cfs
Distance to Bottom of Current Zone	N/A	feet
Distance to Top of Current Zone		0.75 feet

-----Potential Regulatory Discharge Considering Upstream Water Levels-----

	Stage (ft-NGVD)	Regulation Stage (ft-NGVD)	Excess Storage (ac-ft)	Depth (ft)
WCA-1	15.89	15.93	0	
WCA-2A	10.95	11.00	-3,400	
Others			0	
Total Storage Adjustment			0	0.00
WCA-3A	8.52			
Adjusted WCA-3A	8.52			

<b>Adjusted WCA-3A is in Zone E</b>	<b>Discharge Coeff. (cfs/ft) =</b>	<b>2500</b>
Potential regulatory discharge		0 cfs
Distance to Bottom of Current Zone		-0.04 feet
Distance to Top of Current Zone		0.75 feet

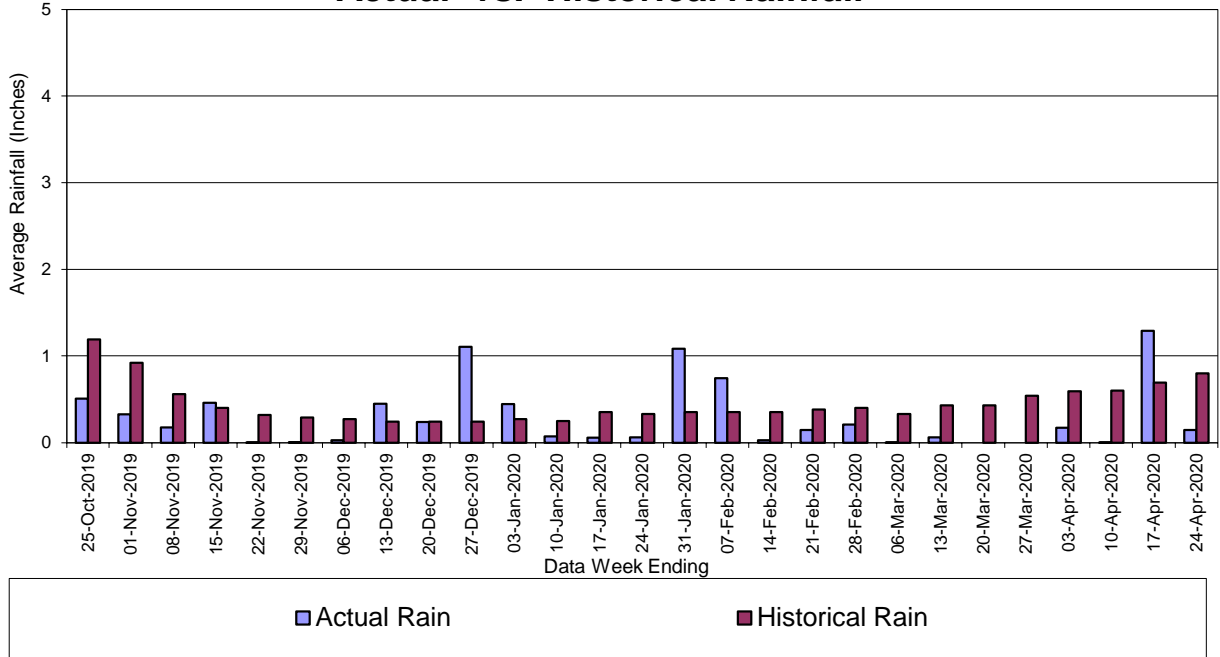
-----Statistical Parameters -----

Rainfall Formula Amount		-405 cfs
Last Week's Rainfall Formula		-414 cfs
Pre-project Mean Discharge		24 cfs
Rainfall Excess Terms	RL1 -0.51	RL2 -2.89
		RL3 -1.78

**COMMENT: S7 estimated evap data and S140 estimated evap data were used. ENP evap data were missing**

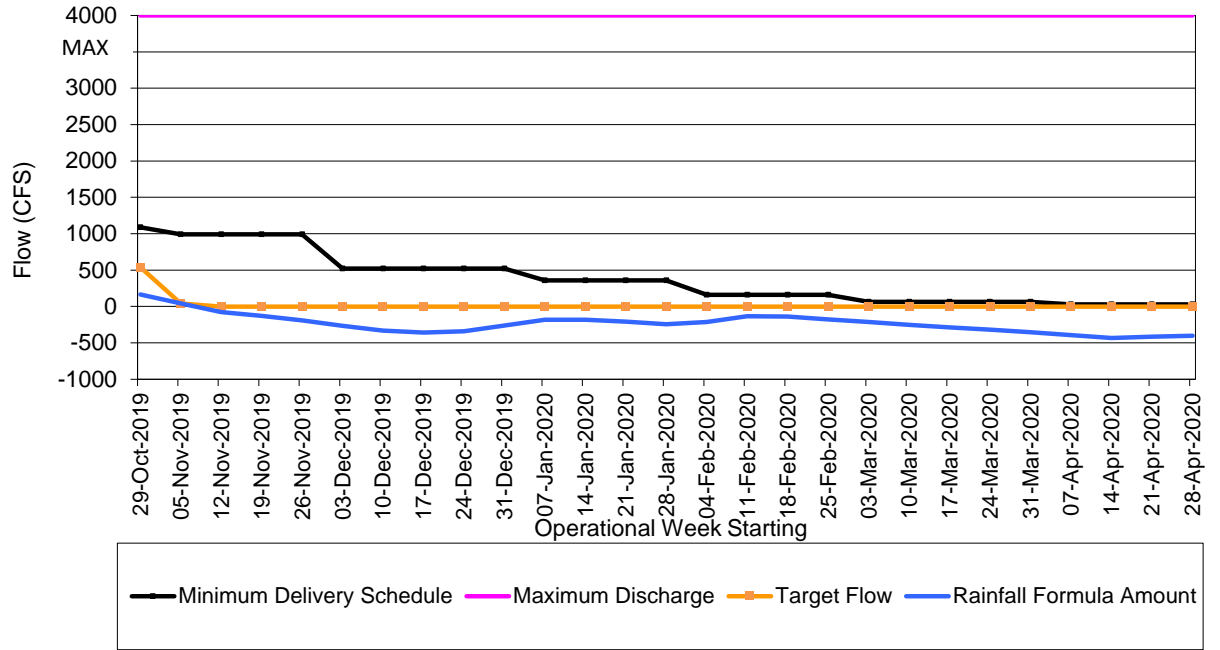
**\*NOTE: Actual discharges may vary from target discharges because of changing hydrologic conditions.**

## Shark River Slough Actual vs. Historical Rainfall



■ Actual Rain                      ■ Historical Rain

## Deliveries to Shark River Slough Computed by Rainfall Plan



— Minimum Delivery Schedule    — Maximum Discharge    — Target Flow    — Rainfall Formula Amount

### WCA-3A RAINFALL-BASED MANAGEMENT PLAN

**Target Flow May 5, 2020 to May 11, 2020 0 cfs**

The target flow is distributed from east to west (S-333, S-12D, S-12C, S-12B, and S-12A) to keep WCA 3A releases away from sub-population A of the Cape Sable seaside sparrow

Rainfall Formula Amount 0 cfs  
Regulatory Discharge 0 cfs  
Potential Regulatory Discharge 0 cfs

**----Data Summary ----**  
 WCA-3A Stage (end of week) **April 25, 2020 8.44 to May 1, 2020**  
 Angel's ft-NGVD  
 G-3273 ft-NGVD

Station	Rainfall (in)	Pan Evaporation (in)
NEXRAD Rain for WCA-3A	1.02	1.47
and S7 evaporation		1.88
S-140		M
ENP		
This Week's Avg	1.02	1.67
Pre-Project Avg	0.92	1.60

**---- Regulatory Discharge Calculation ----**

**WCA-3A is in Zone E** **Discharge Coeff. (cfs/ft) = 2500**  
 Regulatory discharge is 0 cfs  
 Distance to Bottom of Current Zone N/A feet  
 Distance to Top of Current Zone 0.79 feet

**----Potential Regulatory Discharge Considering Upstream Water Levels----**

	Stage (ft-NGVD)	Regulation Stage (ft-NGVD)	Excess Storage (ac-ft)	Depth (ft)
WCA-1	15.89	15.86	0	
WCA-2A	10.99	11.00	-1,700	
Others			0	
Total Storage Adjustment				0 0.00
WCA-3A	8.44			
Adjusted WCA-3A	8.44			

**Adjusted WCA-3A is in Zone E** **Discharge Coeff. (cfs/ft) = 2500**  
 Potential regulatory discharge 0 cfs  
 Distance to Bottom of Current Zone -0.04 feet  
 Distance to Top of Current Zone 0.79 feet

**----Statistical Parameters ----**

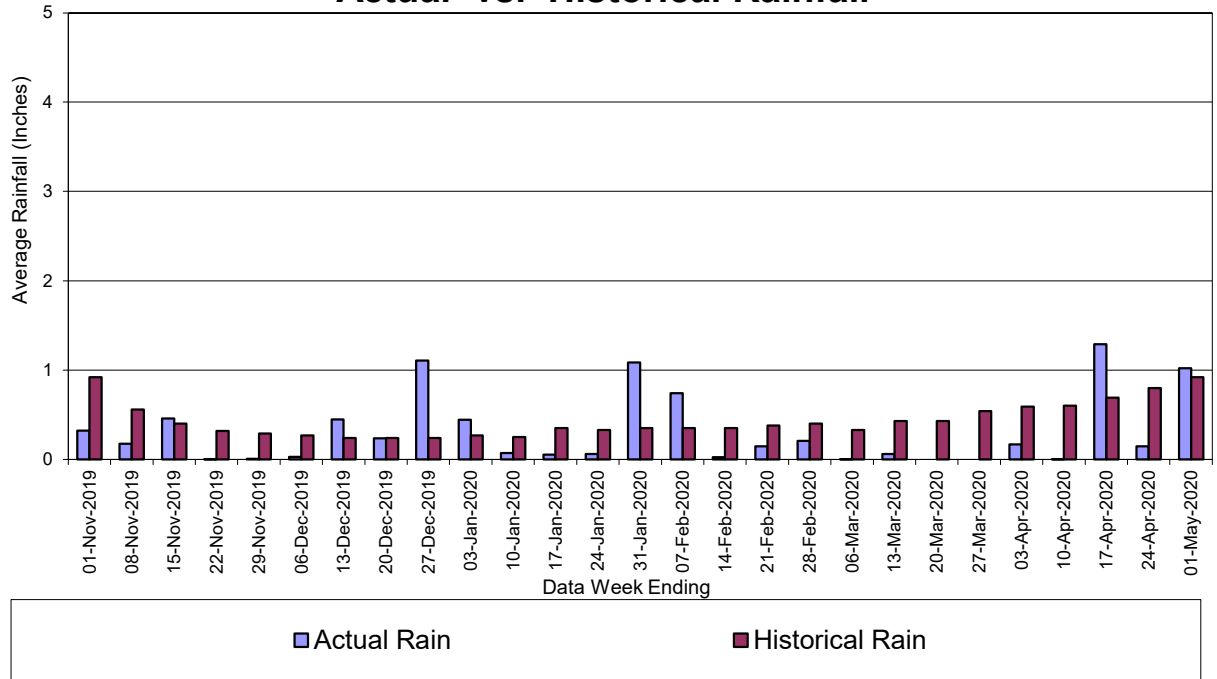
Rainfall Formula Amount -416 cfs  
 Last Week's Rainfall Formula -405 cfs  
 Pre-project Mean Discharge 16 cfs

Rainfall Excess Terms RL1 -0.84                      RL2 -1.90                      RL3 -2.05

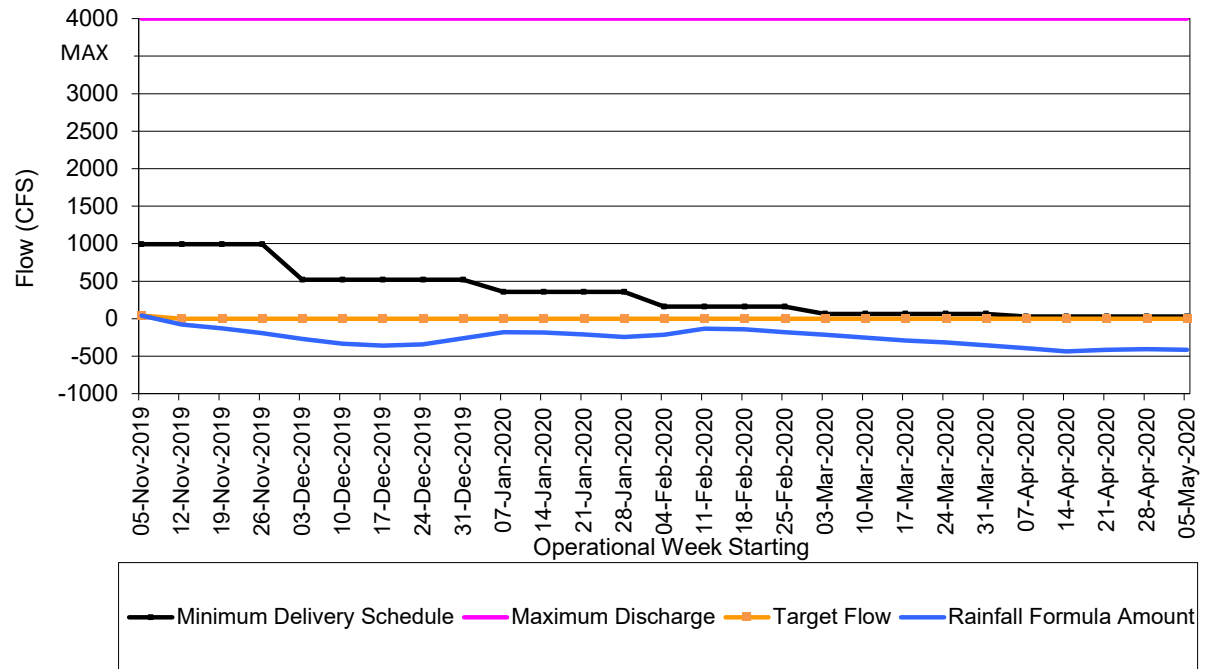
**COMMENT: S7 estimated evap data and S140 estimated evap data were used. ENP evap data were missing**

**\*NOTE: Actual discharges may vary from target discharges because of changing hydrologic conditions.**

## Shark River Slough Actual vs. Historical Rainfall



## Deliveries to Shark River Slough Computed by Rainfall Plan



## WCA-3A RAINFALL-BASED MANAGEMENT PLAN

**Target Flow May 12, 2020 to May 18, 2020 0 cfs**

The target flow is distributed from east to west (S-333, S-12D, S-12C, S-12B, and S-12A) to keep WCA 3A releases away from sub-population A of the Cape Sable seaside sparrow

Rainfall Formula Amount 0 cfs  
Regulatory Discharge 0 cfs  
Potential Regulatory Discharge 0 cfs

**----Data Summary ----**

	May 2, 2020	to	May 8, 2020
WCA-3A Stage (end of week)	8.29		ft-NGVD
Angel's	2.89		ft-NGVD
G-3273	2.93		ft-NGVD

<u>Station</u>	<u>Rainfall (in)</u>	<u>Pan Evaporation (in)</u>
NEXRAD Rain for WCA-3A and S7 evaporation	0.00	2.23
S-140		2.12
ENP		M
This Week's Avg	0.00	2.17
Pre-Project Avg	1.08	1.61

**---- Regulatory Discharge Calculation ----**

<b>WCA-3A is in Zone E</b>	<b>Discharge Coeff. (cfs/ft) =</b>	<b>2500</b>
Regulatory discharge is		0 cfs
Distance to Bottom of Current Zone	N/A	feet
Distance to Top of Current Zone		0.89 feet

**----Potential Regulatory Discharge Considering Upstream Water Levels----**

	Stage (ft-NGVD)	Regulation Stage (ft-NGVD)	Excess Storage (ac-ft)	Depth (ft)
WCA-1	15.71	15.78	0	
WCA-2A	10.79	11.00	-8,500	
Others			0	
Total Storage Adjustment			0	0.00
WCA-3A	8.29			
Adjusted WCA-3A	8.29			

<b>Adjusted WCA-3A is in Zone E</b>	<b>Discharge Coeff. (cfs/ft) =</b>	<b>2500</b>
Potential regulatory discharge		0 cfs
Distance to Bottom of Current Zone		-0.04 feet
Distance to Top of Current Zone		0.89 feet

**----Statistical Parameters ----**

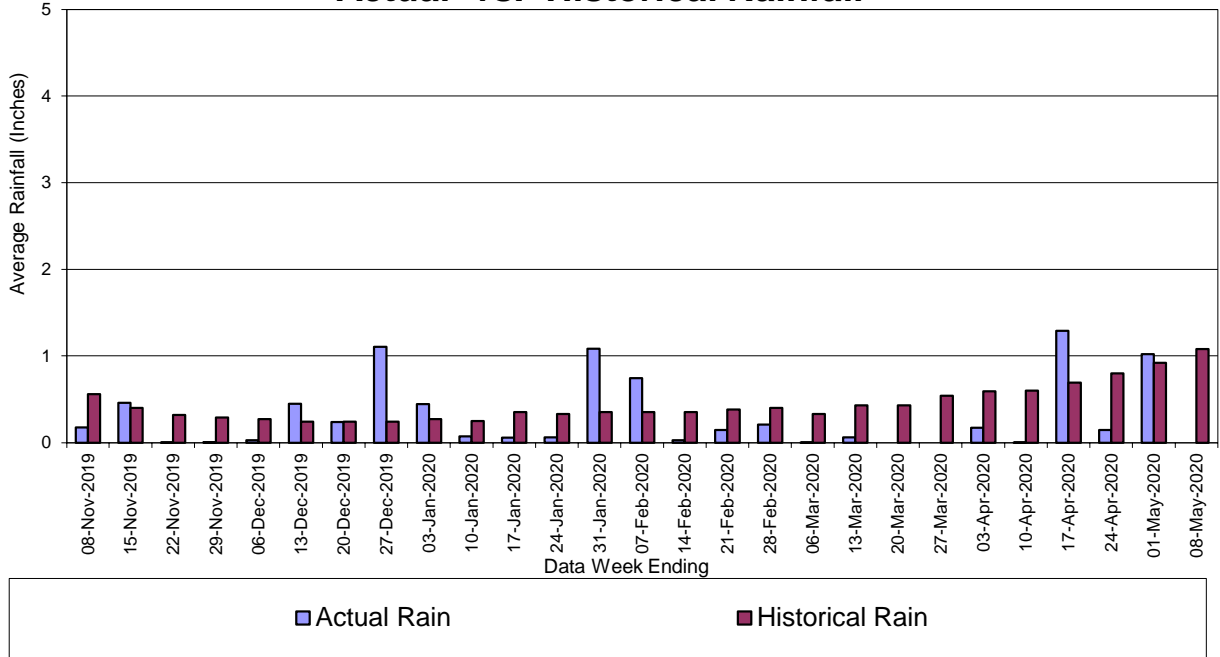
Rainfall Formula Amount	-457 cfs
Last Week's Rainfall Formula	-416 cfs
Pre-project Mean Discharge	13 cfs

Rainfall Excess Terms	RL1 -1.49	RL2 -2.03	RL3 -2.41
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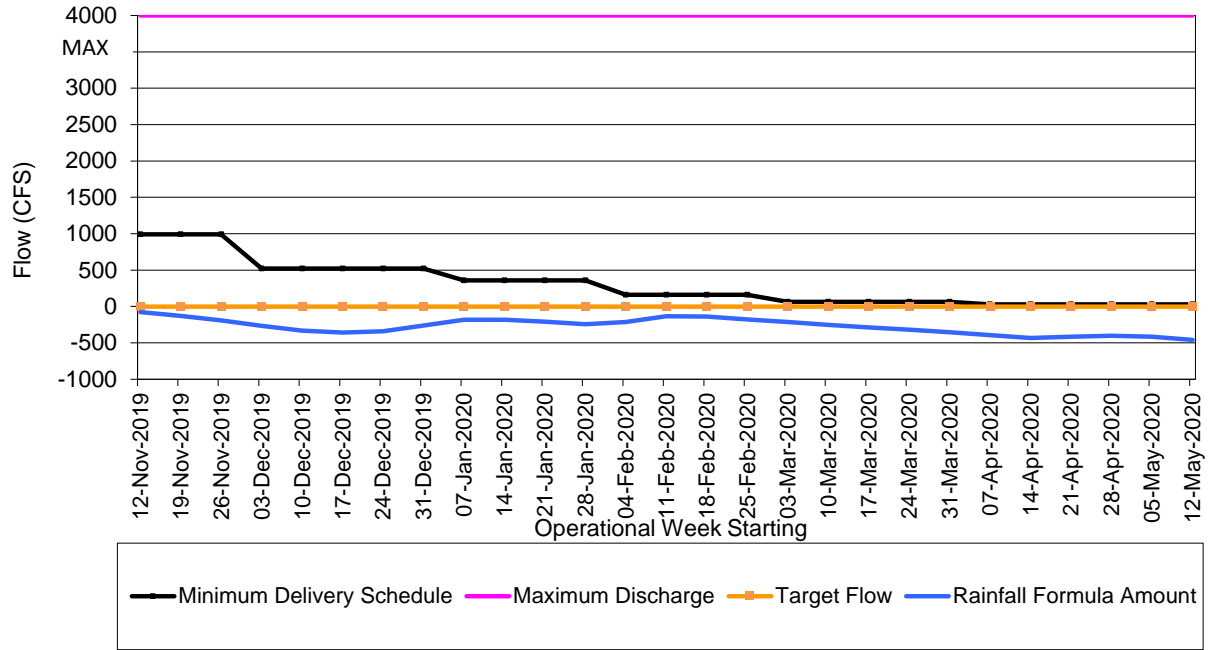
**COMMENT: S7 estimated evap data and S140 estimated evap data were used. ENP evap data were missing**

**\*NOTE: Actual discharges may vary from target discharges because of changing hydrologic conditions.**

## Shark River Slough Actual vs. Historical Rainfall



## Deliveries to Shark River Slough Computed by Rainfall Plan



## WCA-3A RAINFALL-BASED MANAGEMENT PLAN

**Target Flow May 19, 2020 to May 25, 2020 0 cfs**

The target flow is distributed from east to west (S-333, S-12D, S-12C, S-12B, and S-12A) to keep WCA 3A releases away from sub-population A of the Cape Sable seaside sparrow

Rainfall Formula Amount 0 cfs  
Regulatory Discharge 0 cfs  
Potential Regulatory Discharge 0 cfs

**----Data Summary ----**

	May 9, 2020	to	May 15, 2020
WCA-3A Stage (end of week)	8.43		ft-NGVD
Angel's	2.77		ft-NGVD
G-3273	2.80		ft-NGVD

<u>Station</u>	<u>Rainfall (in)</u>	<u>Pan Evaporation (in)</u>
NEXRAD Rain for WCA-3A and S7 evaporation	1.26	1.68
S-140		2.16
ENP		M
This Week's Avg	1.26	1.92
Pre-Project Avg	1.21	1.62

**---- Regulatory Discharge Calculation ----**

<b>WCA-3A is in Zone E</b>	<b>Discharge Coeff. (cfs/ft) =</b>	<b>2500</b>
Regulatory discharge is		0 cfs
Distance to Bottom of Current Zone	N/A	feet
Distance to Top of Current Zone		0.71 feet

**----Potential Regulatory Discharge Considering Upstream Water Levels----**

	Stage (ft-NGVD)	Regulation Stage (ft-NGVD)	Excess Storage (ac-ft)	Depth (ft)
WCA-1	15.63	15.75	0	
WCA-2A	10.90	11.00	-5,100	
Others			0	
Total Storage Adjustment			0	0.00
WCA-3A	8.43			
Adjusted WCA-3A	8.43			

<b>Adjusted WCA-3A is in Zone E</b>	<b>Discharge Coeff. (cfs/ft) =</b>	<b>2500</b>
Potential regulatory discharge		0 cfs
Distance to Bottom of Current Zone		-0.04 feet
Distance to Top of Current Zone		0.71 feet

**----Statistical Parameters ----**

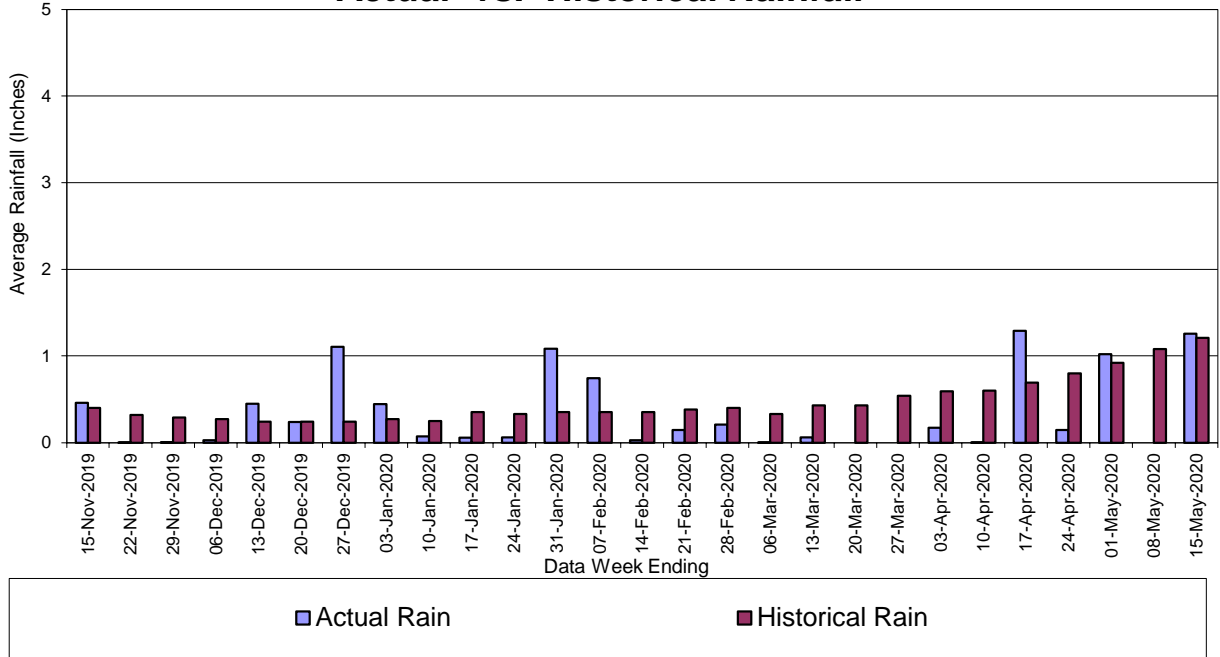
Rainfall Formula Amount	-505 cfs
Last Week's Rainfall Formula	-457 cfs
Pre-project Mean Discharge	12 cfs

Rainfall Excess Terms	RL1 -1.72	RL2 -1.25	RL3	-2.62
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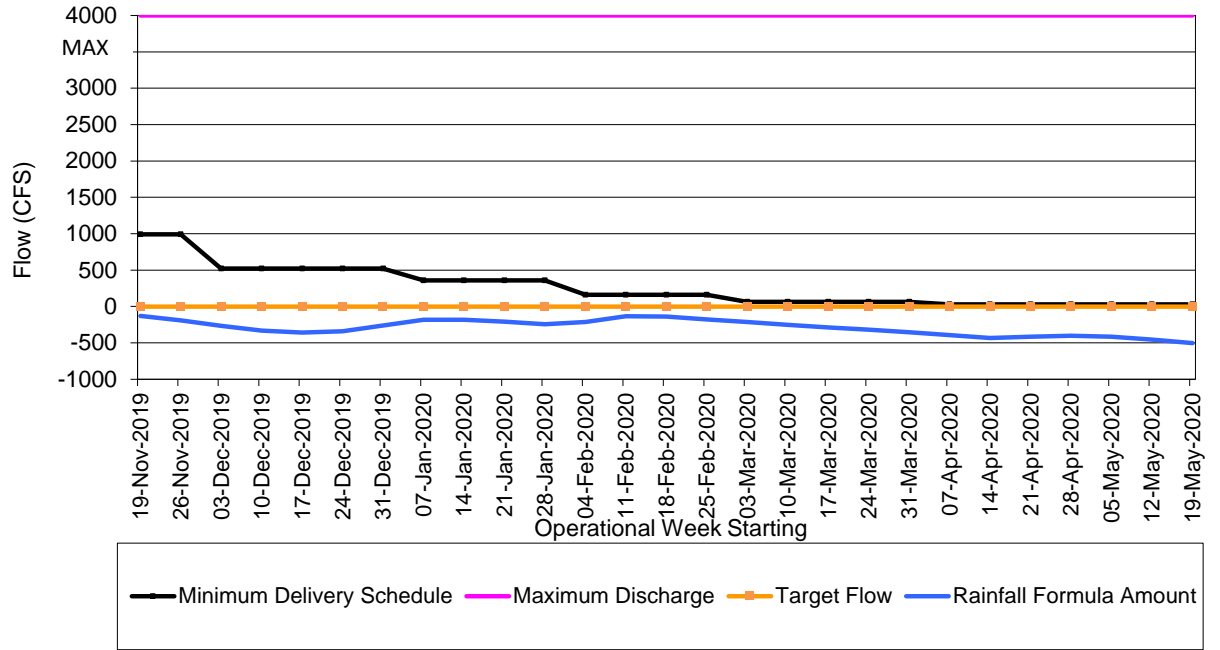
**COMMENT: S7 estimated evap data and S140 estimated evap data were used. ENP evap data were missing**

**\*NOTE: Actual discharges may vary from target discharges because of changing hydrologic conditions.**

## Shark River Slough Actual vs. Historical Rainfall



## Deliveries to Shark River Slough Computed by Rainfall Plan





## WCA-3A RAINFALL-BASED MANAGEMENT PLAN

**Target Flow May 26, 2020**

**to June 1, 2020**

Adjusted  
0 cfs

The target flow is distributed from east to west (S-333, S-12D, S-12C, S-12B, and S-12A) to keep WCA 3A releases away from sub-population A of the Cape Sable seaside sparrow

Rainfall Formula Amount	0 cfs
<input type="checkbox"/> Regulatory Discharge	0 cfs
<input checked="" type="checkbox"/> Potential Regulatory Discharge	0 cfs

<b>----Data Summary ----</b>	<b>May 16, 2020</b>	<b>to</b>	<b>May 22, 2020</b>	
WCA-3A Stage (end of week)	8.76		ft-NGVD	
Angel's	4.26		ft-NGVD	
G-3273	4.94		ft-NGVD	

<u>Station</u>	<u>Rainfall (in)</u>	<u>Pan Evaporation (in)</u>
NEXRAD Rain for WCA-3A and S7 evaporation	3.28	1.39
S-140		1.93
ENP		M
This Week's Avg	3.28	1.66
Pre-Project Avg	1.43	1.61

**---- Regulatory Discharge Calculation ----**

<b>WCA-3A is in Zone E</b>	<b>Discharge Coeff. (cfs/ft) =</b>	<b>2500</b>
Regulatory discharge is		0 cfs
Distance to Bottom of Current Zone	N/A	feet
Distance to Top of Current Zone		0.33 feet

**----Potential Regulatory Discharge Considering Upstream Water Levels----**

	Stage (ft-NGVD)	Regulation Stage (ft-NGVD)	Excess Storage (ac-ft)	Depth (ft)
WCA-1	15.91	15.75	19,200	
WCA-2A	11.44	11.00	17,540	
Others			0	
Total Storage Adjustment			36,740	0.14
WCA-3A	8.76			
Adjusted WCA-3A	<b>8.90</b>			

<b>Adjusted WCA-3A is in Zone E</b>	<b>Discharge Coeff. (cfs/ft) =</b>	<b>2500</b>
Potential regulatory discharge		0 cfs
Distance to Bottom of Current Zone		-0.04 feet
Distance to Top of Current Zone		0.19 feet

**----Statistical Parameters ----**

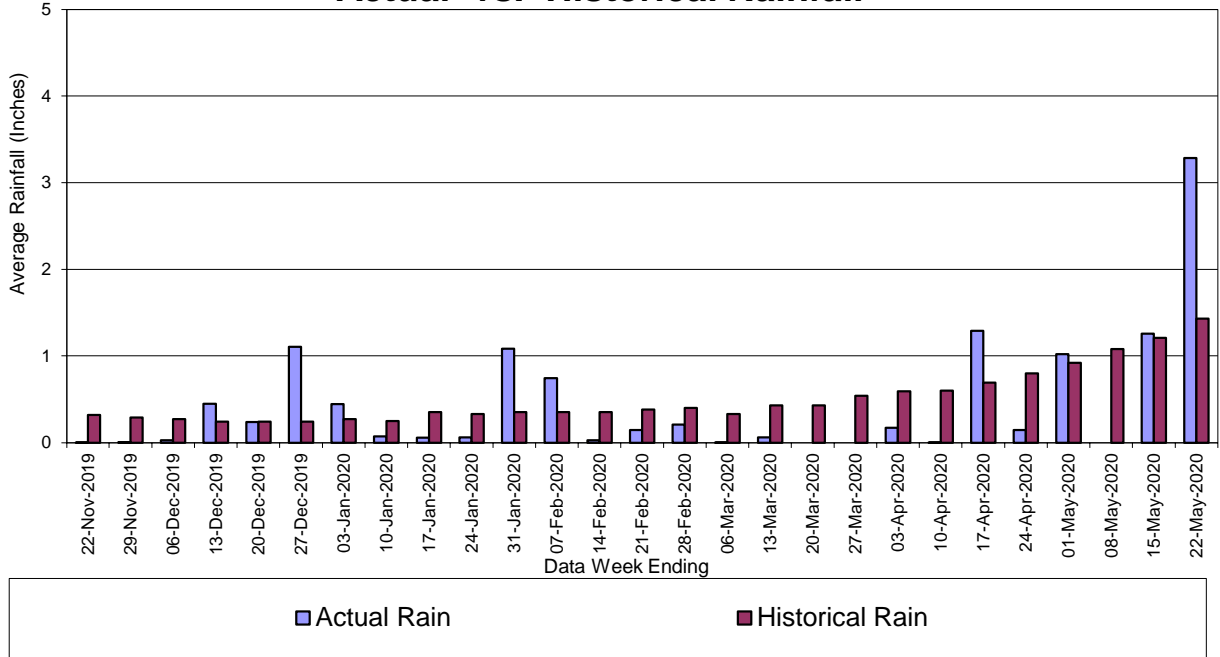
Rainfall Formula Amount	-337 cfs
Last Week's Rainfall Formula	-505 cfs
Pre-project Mean Discharge	17 cfs

Rainfall Excess Terms	RL1 1.62	RL2 -2.00	RL3 -2.89
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**COMMENT: S7 estimated evap data and S140 estimated evap data were used. ENP evap data were missing**

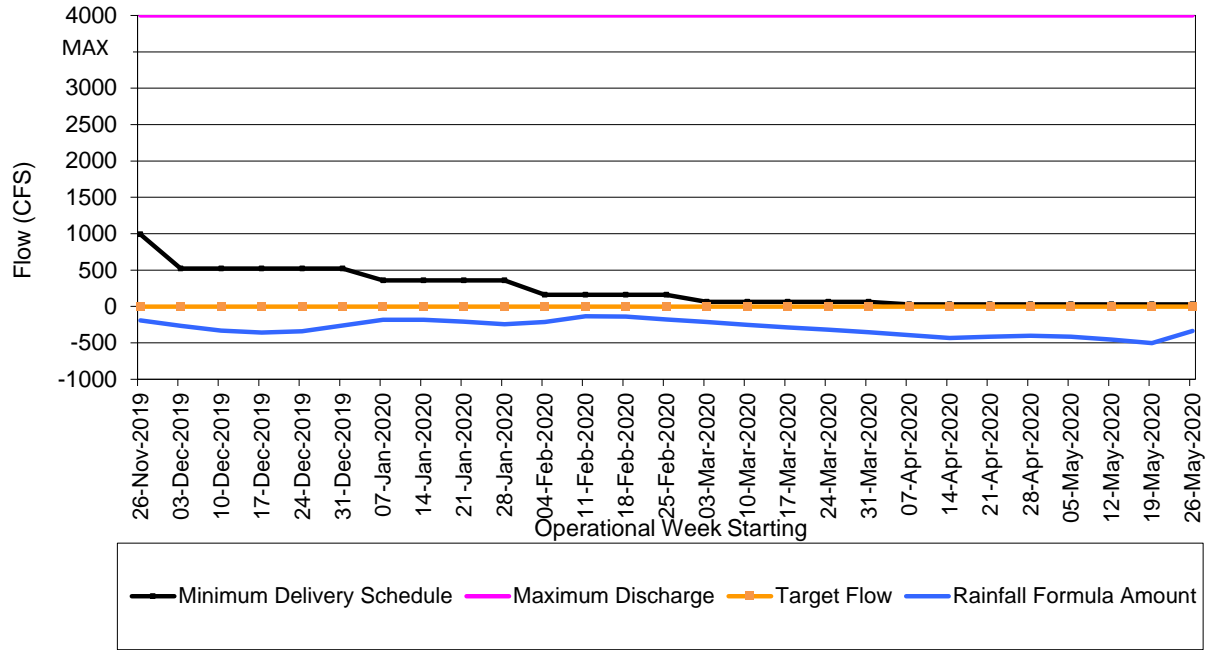
**\*NOTE: Actual discharges may vary from target discharges because of changing hydrologic conditions.**

## Shark River Slough Actual vs. Historical Rainfall



■ Actual Rain      ■ Historical Rain

## Deliveries to Shark River Slough Computed by Rainfall Plan



— Minimum Delivery Schedule    — Maximum Discharge    — Target Flow    — Rainfall Formula Amount

## WCA-3A RAINFALL-BASED MANAGEMENT PLAN

**Target Flow June 2, 2020 to June 8, 2020 839 cfs**

The target flow is distributed from east to west (S-333, S-12D, S-12C, S-12B, and S-12A) to keep WCA 3A releases away from sub-population A of the Cape Sable seaside sparrow

Rainfall Formula Amount 113 cfs  
Regulatory Discharge 726 cfs  
Potential Regulatory Discharge MAX cfs

**----Data Summary ----**

	<b>May 23, 2020</b>	<b>to</b>	<b>May 29, 2020</b>
WCA-3A Stage (end of week)	9.34		ft-NGVD
Angel's	6.22		ft-NGVD
G-3273	6.65		ft-NGVD

<u>Station</u>	<u>Rainfall (in)</u>	<u>Pan Evaporation (in)</u>
NEXRAD Rain for WCA-3A and S7 evaporation	5.71	1.76
S-140		1.91
ENP		M
This Week's Avg	5.71	1.84
Pre-Project Avg	1.57	1.61

**---- Regulatory Discharge Calculation ----**

<b>WCA-3A is in Zone E1</b>	<b>Discharge Coeff. (cfs/ft) =</b>	<b>2500</b>
Regulatory discharge is		726 cfs
Distance to Bottom of Current Zone		-0.29 feet
Distance to Top of Current Zone		0.16 feet

**----Potential Regulatory Discharge Considering Upstream Water Levels----**

	Stage (ft-NGVD)	Regulation Stage (ft-NGVD)	Excess Storage (ac-ft)	Depth (ft)
WCA-1	16.19	15.75	50,900	
WCA-2A	11.94	11.00	50,700	
Others			0	
Total Storage Adjustment			101,600	0.25
WCA-3A	9.34			
Adjusted WCA-3A	9.59			

<b>Adjusted WCA-3A is in Zone A</b>	<b>Discharge Coeff. (cfs/ft) =</b>	<b>MAX</b>
Potential regulatory discharge	MAX	cfs
Distance to Bottom of Current Zone		-0.09 feet
Distance to Top of Current Zone	N/A	feet

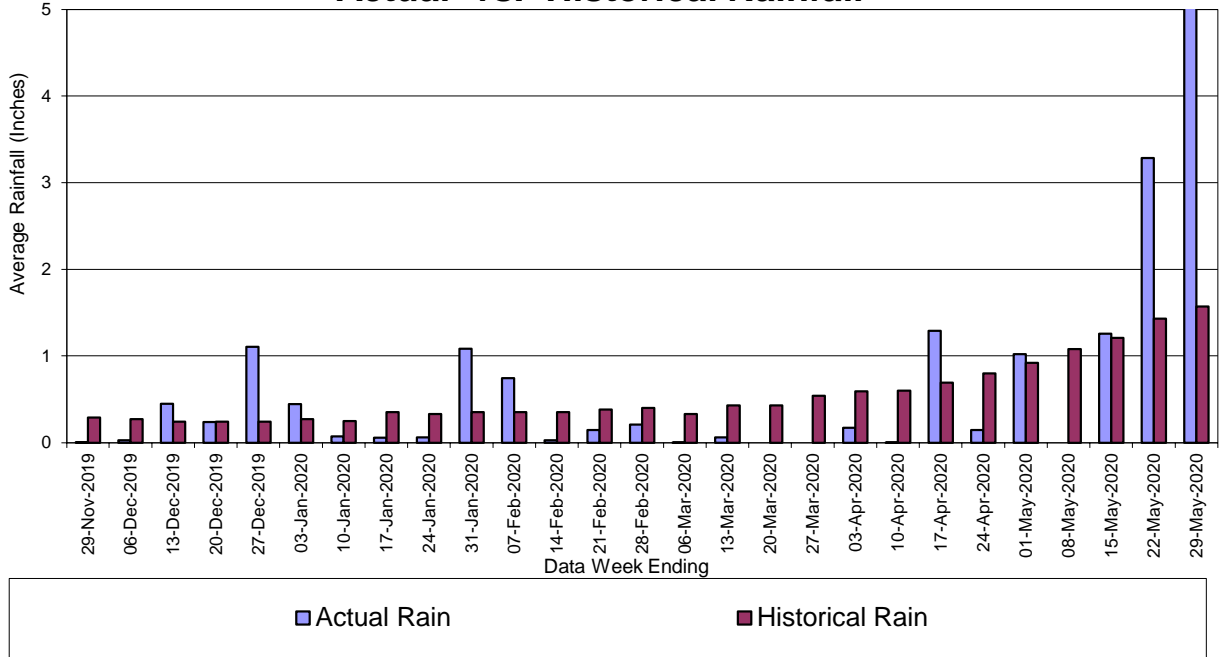
**----Statistical Parameters ----**

Rainfall Formula Amount		113 cfs	
Last Week's Rainfall Formula		-337 cfs	
Pre-project Mean Discharge		27 cfs	
Rainfall Excess Terms	RL1 5.77	RL2 -2.56	RL3 -1.90

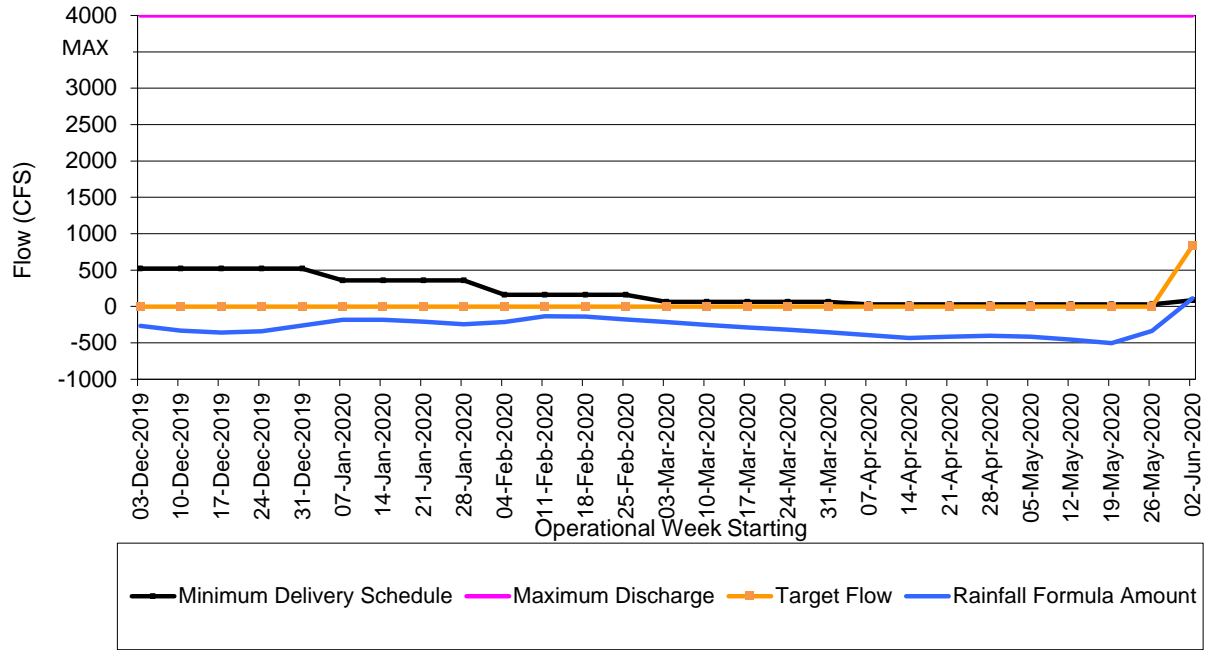
**COMMENT: S7 estimated evap data and S140 estimated evap data were used. ENP evap data were missing**

**\*NOTE: Actual discharges may vary from target discharges because of changing hydrologic conditions.**

## Shark River Slough Actual vs. Historical Rainfall



## Deliveries to Shark River Slough Computed by Rainfall Plan



## WCA-3A RAINFALL-BASED MANAGEMENT PLAN

**Target Flow June 9, 2020**

**to June 15, 2020**

**Adjusted  
MAX cfs**

The target flow is distributed from east to west (S-333, S-12D, S-12C, S-12B, and S-12A) to keep WCA 3A releases away from sub-population A of the Cape Sable seaside sparrow

Rainfall Formula Amount	433 cfs
<input type="checkbox"/> Regulatory Discharge	1262 cfs
<input checked="" type="checkbox"/> Potential Regulatory Discharge	MAX cfs

<b>----Data Summary ----</b>	<b>May 30, 2020</b>	<b>to</b>	<b>June 5, 2020</b>	
WCA-3A Stage (end of week)	9.51		ft-NGVD	
Angel's	6.01		ft-NGVD	
G-3273	6.64		ft-NGVD	

<u>Station</u>	<u>Rainfall (in)</u>	<u>Pan Evaporation (in)</u>
NEXRAD Rain for WCA-3A and S7 evaporation	2.29	1.77
S-140		1.74
ENP		M
This Week's Avg	2.29	1.76
Pre-Project Avg	1.67	1.59

**---- Regulatory Discharge Calculation ----**

<b>WCA-3A is in Zone D</b>	<b>Discharge Coeff. (cfs/ft) =</b>	<b>2500</b>
Regulatory discharge is		1262 cfs
Distance to Bottom of Current Zone		-0.50 feet
Distance to Top of Current Zone		0.03 feet

**----Potential Regulatory Discharge Considering Upstream Water Levels----**

	Stage (ft-NGVD)	Regulation Stage (ft-NGVD)	Excess Storage (ac-ft)	Depth (ft)
WCA-1	16.27	15.75	63,500	
WCA-2A	12.53	11.00	104,000	
Others			0	
Total Storage Adjustment			167,500	0.41
WCA-3A	9.51			
Adjusted WCA-3A	<b>9.92</b>			

<b>Adjusted WCA-3A is in Zone A</b>	<b>Discharge Coeff. (cfs/ft) =</b>	<b>MAX</b>
Potential regulatory discharge	MAX	cfs
Distance to Bottom of Current Zone		-0.38 feet
Distance to Top of Current Zone	N/A	feet

**----Statistical Parameters ----**

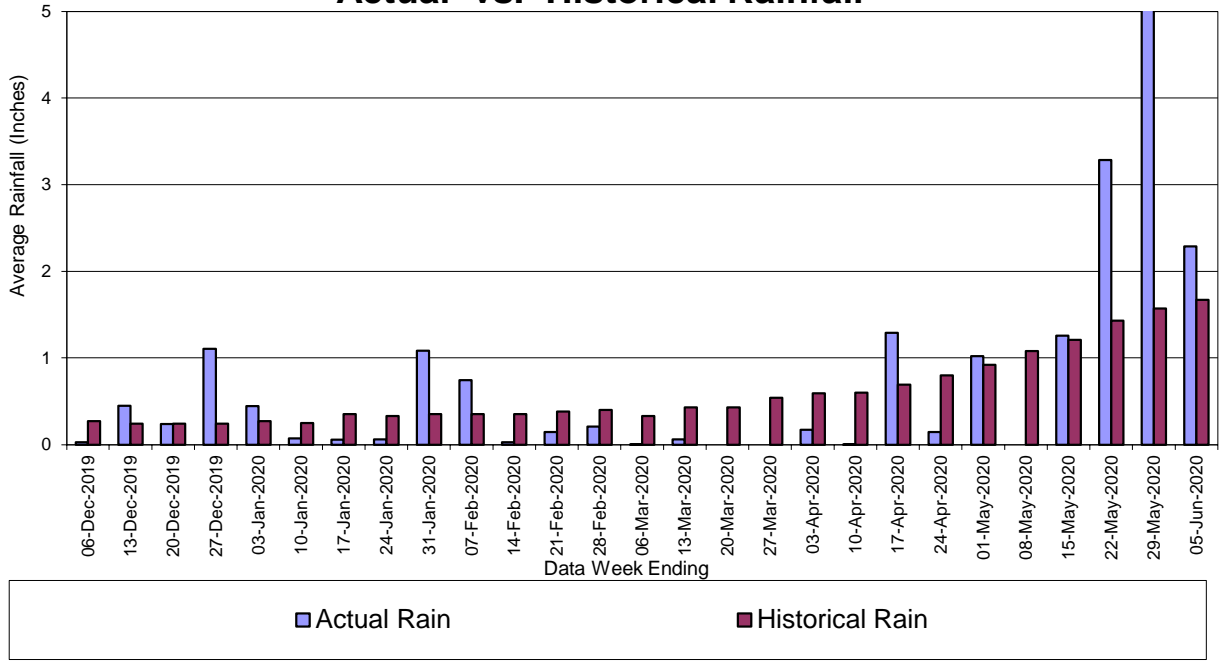
Rainfall Formula Amount	433 cfs
Last Week's Rainfall Formula	113 cfs
Pre-project Mean Discharge	40 cfs

Rainfall Excess Terms	RL1 4.44	RL2 0.13	RL3 -2.03
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**COMMENT: S7 estimated evap data and S140 estimated evap data were used. ENP evap data were missing**

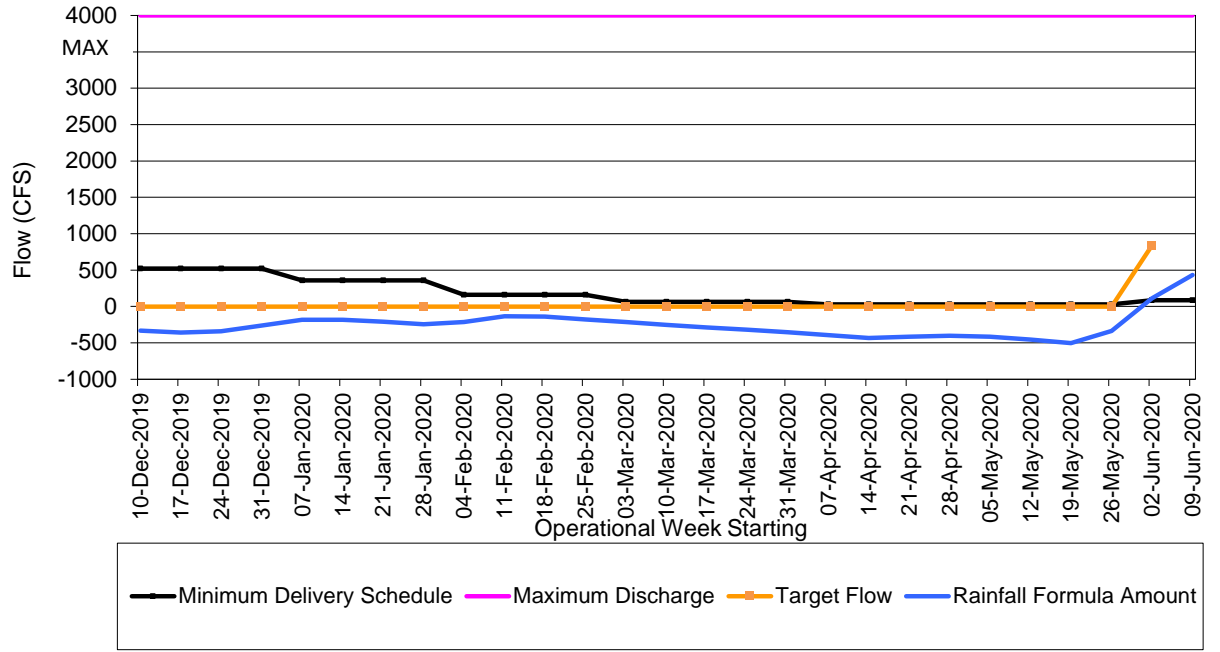
**\*NOTE: Actual discharges may vary from target discharges because of changing hydrologic conditions.**

## Shark River Slough Actual vs. Historical Rainfall



■ Actual Rain      ■ Historical Rain

## Deliveries to Shark River Slough Computed by Rainfall Plan



— Minimum Delivery Schedule    — Maximum Discharge    — Target Flow    — Rainfall Formula Amount

## WCA-3A RAINFALL-BASED MANAGEMENT PLAN

Target Flow **June 16, 2020** to **June 22, 2020** **MAX** cfs

The target flow is distributed from east to west (S-333, S-12D, S-12C, S-12B, and S-12A) to keep WCA 3A releases away from sub-population A of the Cape Sable seaside sparrow

Rainfall Formula Amount 417 cfs  
Regulatory Discharge MAX cfs  
Potential Regulatory Discharge MAX cfs

-----Data Summary -----

	June 6, 2020	to	June 12, 2020
WCA-3A Stage (end of week)	9.75		ft-NGVD
Angel's	6.24		ft-NGVD
G-3273	6.76		ft-NGVD

<u>Station</u>	<u>Rainfall (in)</u>	<u>Pan Evaporation (in)</u>
NEXRAD Rain for WCA-3A and S7 evaporation	0.69	1.30
S-140		1.67
ENP		M
This Week's Avg	0.69	1.49
Pre-Project Avg	1.83	1.55

----- Regulatory Discharge Calculation -----

<b>WCA-3A is in Zone A</b>	<b>Discharge Coeff. (cfs/ft) =</b>	<b>MAX</b>
Regulatory discharge is	MAX	cfs
Distance to Bottom of Current Zone		-0.17 feet
Distance to Top of Current Zone	N/A	feet

-----Potential Regulatory Discharge Considering Upstream Water Levels-----

	Stage (ft-NGVD)	Regulation Stage (ft-NGVD)	Excess Storage (ac-ft)	Depth (ft)
WCA-1	16.26	15.75	63,500	
WCA-2A	12.56	11.00	109,300	
Others			0	
Total Storage Adjustment			172,800	0.39
WCA-3A	9.75			
Adjusted WCA-3A	10.14			

<b>Adjusted WCA-3A is in Zone A</b>	<b>Discharge Coeff. (cfs/ft) =</b>	<b>MAX</b>
Potential regulatory discharge	MAX	cfs
Distance to Bottom of Current Zone		-0.55 feet
Distance to Top of Current Zone	N/A	feet

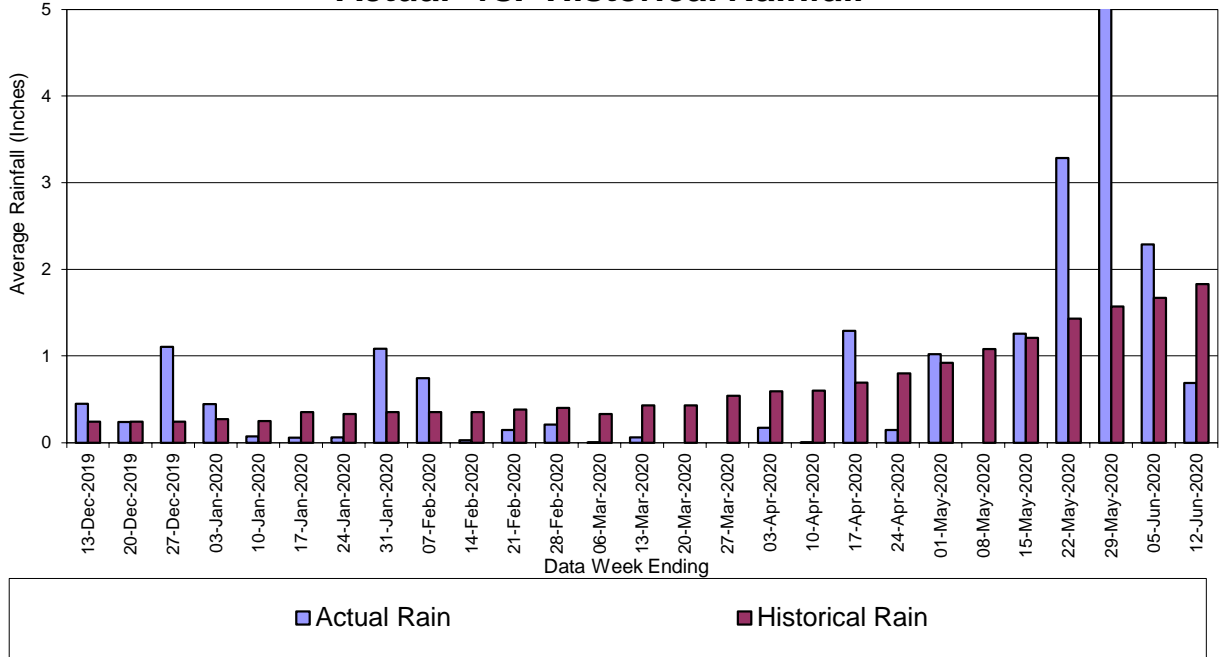
-----Statistical Parameters -----

Rainfall Formula Amount		417 cfs
Last Week's Rainfall Formula		433 cfs
Pre-project Mean Discharge		54 cfs
Rainfall Excess Terms		
RL1 -0.61	RL2 4.05	RL3 -1.25

**COMMENT: S7 estimated evap data and S140 estimated evap data were used. ENP evap data were missing**

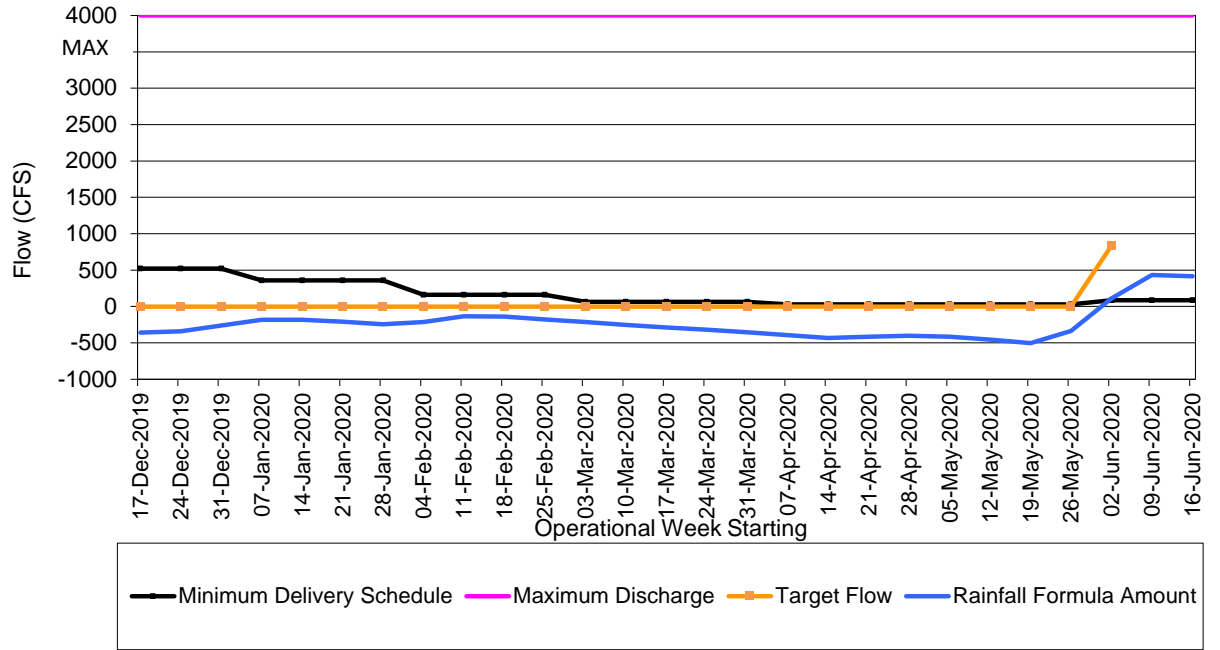
**\*NOTE: Actual discharges may vary from target discharges because of changing hydrologic conditions.**

## Shark River Slough Actual vs. Historical Rainfall



■ Actual Rain      ■ Historical Rain

## Deliveries to Shark River Slough Computed by Rainfall Plan



— Minimum Delivery Schedule    — Maximum Discharge    — Target Flow    — Rainfall Formula Amount



## WCA-3A RAINFALL-BASED MANAGEMENT PLAN

Target Flow **June 23, 2020** to **June 29, 2020** **MAX** cfs

The target flow is distributed from east to west (S-333, S-12D, S-12C, S-12B, and S-12A) to keep WCA 3A releases away from sub-population A of the Cape Sable seaside sparrow

Rainfall Formula Amount 423 cfs  
Regulatory Discharge MAX cfs  
Potential Regulatory Discharge MAX cfs

-----Data Summary -----

	June 13, 2020	to	June 19, 2020
WCA-3A Stage (end of week)	10.15		ft-NGVD
Angel's	6.68		ft-NGVD
G-3273	7.06		ft-NGVD

<u>Station</u>	<u>Rainfall (in)</u>	<u>Pan Evaporation (in)</u>
NEXRAD Rain for WCA-3A and S7 evaporation	2.51	1.69
S-140		1.79
ENP		M
This Week's Avg	2.51	1.74
Pre-Project Avg	1.98	1.51

----- Regulatory Discharge Calculation -----

<b>WCA-3A is in Zone A</b>	<b>Discharge Coeff. (cfs/ft) =</b>	<b>MAX</b>
Regulatory discharge is	MAX	cfs
Distance to Bottom of Current Zone		-0.52 feet
Distance to Top of Current Zone	N/A	feet

-----Potential Regulatory Discharge Considering Upstream Water Levels-----

	Stage (ft-NGVD)	Regulation Stage (ft-NGVD)	Excess Storage (ac-ft)	Depth (ft)
WCA-1	16.31	15.75	70,200	
WCA-2A	12.75	11.00	130,500	
Others			0	
Total Storage Adjustment			200,700	0.46
WCA-3A	10.15			
Adjusted WCA-3A	10.61			

<b>Adjusted WCA-3A is in Zone A</b>	<b>Discharge Coeff. (cfs/ft) =</b>	<b>MAX</b>
Potential regulatory discharge	MAX	cfs
Distance to Bottom of Current Zone		-0.98 feet
Distance to Top of Current Zone	N/A	feet

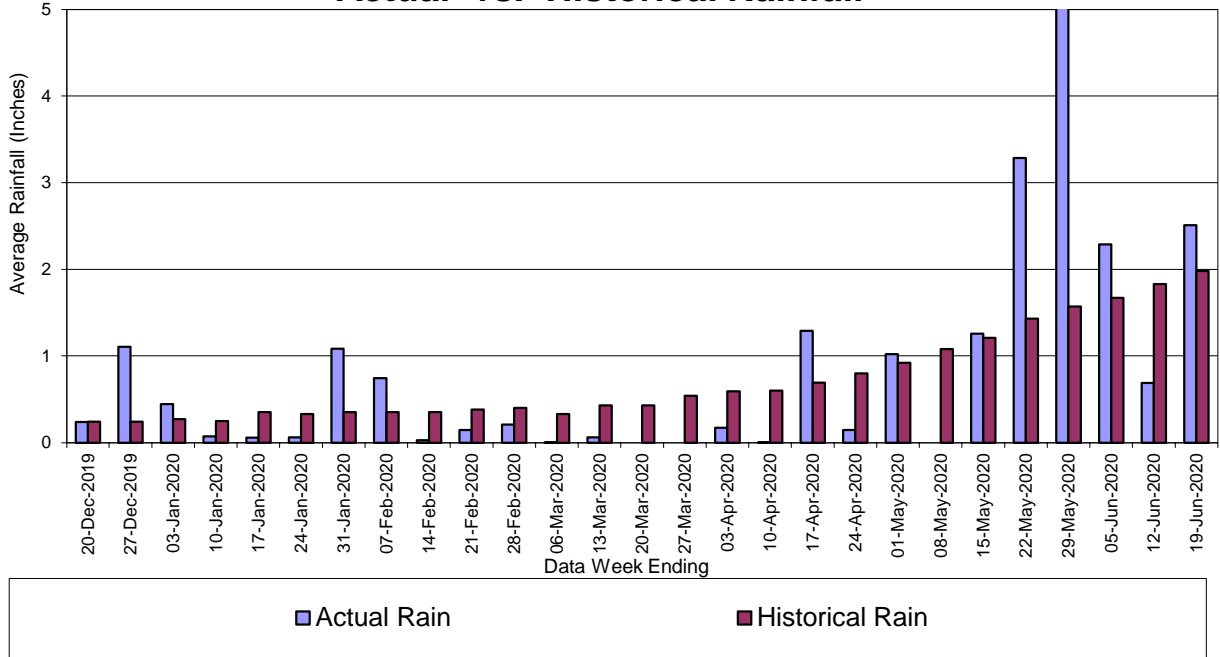
-----Statistical Parameters -----

Rainfall Formula Amount		423 cfs
Last Week's Rainfall Formula		417 cfs
Pre-project Mean Discharge		75 cfs
Rainfall Excess Terms		
RL1 -0.75	RL2 6.06	RL3 -2.00

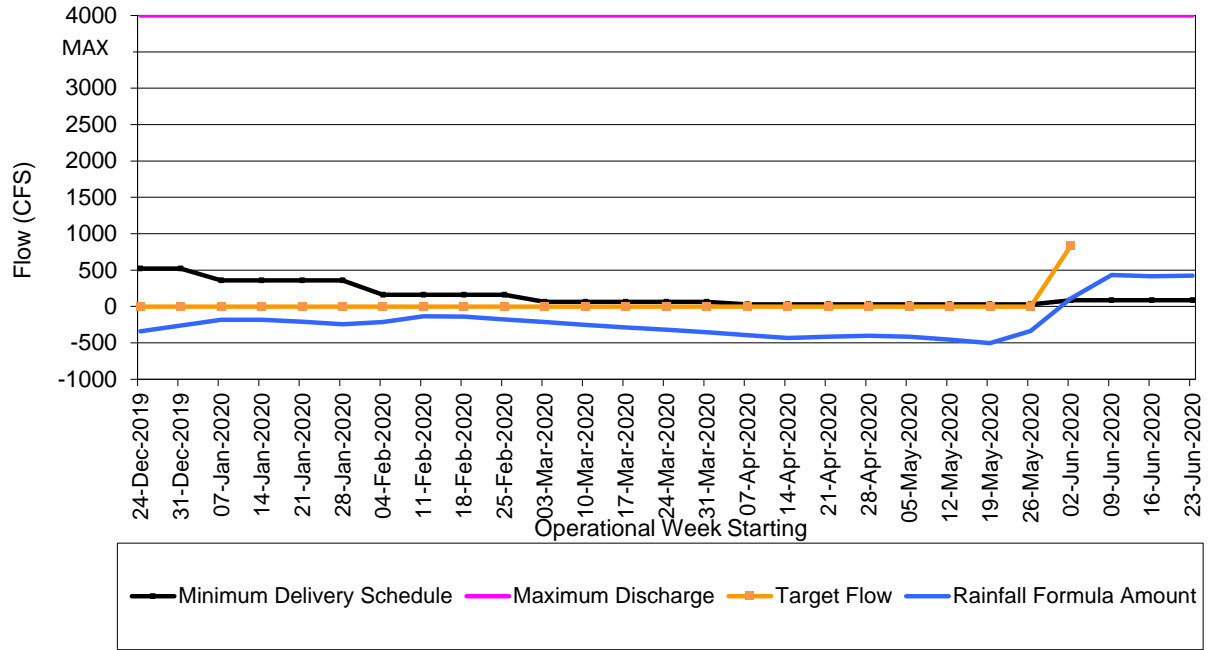
**COMMENT: S7 estimated evap data and S140 estimated evap data were used. ENP evap data were missing**

**\*NOTE: Actual discharges may vary from target discharges because of changing hydrologic conditions.**

## Shark River Slough Actual vs. Historical Rainfall



## Deliveries to Shark River Slough Computed by Rainfall Plan



## WCA-3A RAINFALL-BASED MANAGEMENT PLAN

Target Flow **June 30, 2020** to **July 6, 2020** **MAX** cfs

The target flow is distributed from east to west (S-333, S-12D, S-12C, S-12B, and S-12A) to keep WCA 3A releases away from sub-population A of the Cape Sable seaside sparrow

Rainfall Formula Amount 374 cfs  
Regulatory Discharge MAX cfs  
Potential Regulatory Discharge MAX cfs

-----Data Summary -----

	June 20, 2020	to	June 26, 2020
WCA-3A Stage (end of week)	10.27		ft-NGVD
Angel's	6.45		ft-NGVD
G-3273	6.99		ft-NGVD

<u>Station</u>	<u>Rainfall (in)</u>	<u>Pan Evaporation (in)</u>
NEXRAD Rain for WCA-3A and S7 evaporation	0.45	2.11
S-140		1.61
ENP		M
This Week's Avg	0.45	1.86
Pre-Project Avg	2.10	1.49

----- Regulatory Discharge Calculation -----

<b>WCA-3A is in Zone A</b>	<b>Discharge Coeff. (cfs/ft) =</b>	<b>MAX</b>
Regulatory discharge is	MAX	cfs
Distance to Bottom of Current Zone		-0.59 feet
Distance to Top of Current Zone	N/A	feet

-----Potential Regulatory Discharge Considering Upstream Water Levels-----

	Stage (ft-NGVD)	Regulation Stage (ft-NGVD)	Excess Storage (ac-ft)	Depth (ft)
WCA-1	16.31	15.75	70,200	
WCA-2A	12.75	11.00	130,500	
Others			0	
Total Storage Adjustment			200,700	0.46
WCA-3A	10.27			
Adjusted WCA-3A	10.73			

<b>Adjusted WCA-3A is in Zone A</b>	<b>Discharge Coeff. (cfs/ft) =</b>	<b>MAX</b>
Potential regulatory discharge	MAX	cfs
Distance to Bottom of Current Zone		-1.05 feet
Distance to Top of Current Zone	N/A	feet

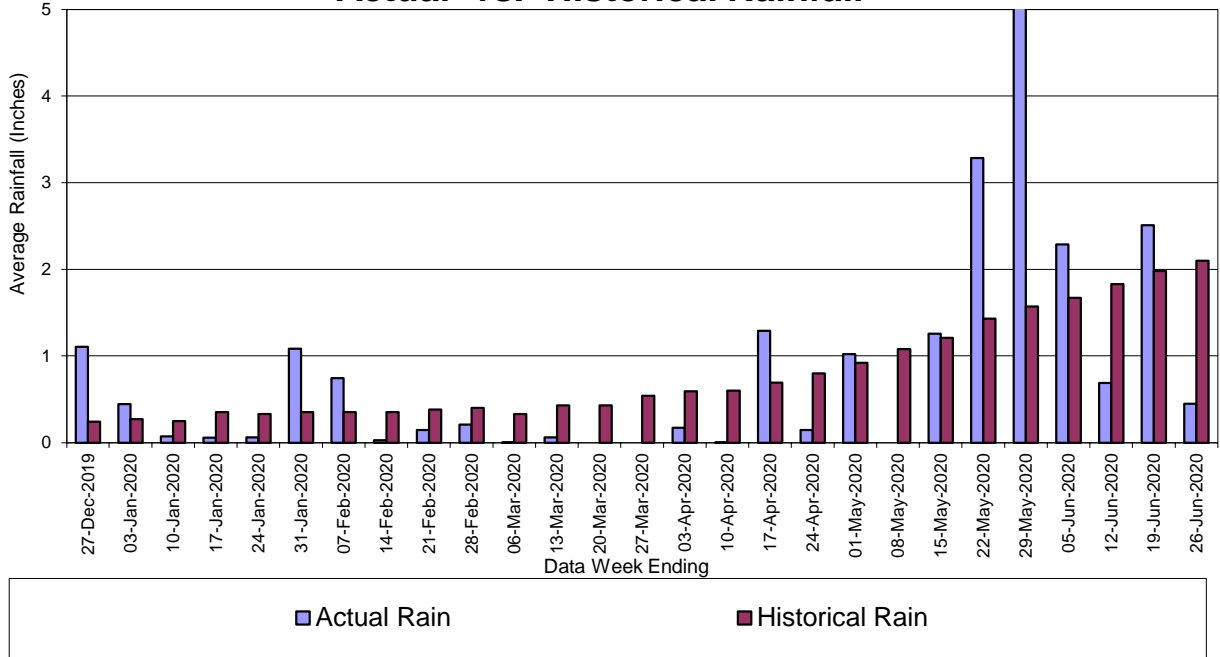
-----Statistical Parameters -----

Rainfall Formula Amount		374 cfs
Last Week's Rainfall Formula		423 cfs
Pre-project Mean Discharge		94 cfs
Rainfall Excess Terms		
RL1 -1.60	RL2 5.16	RL3 -2.56

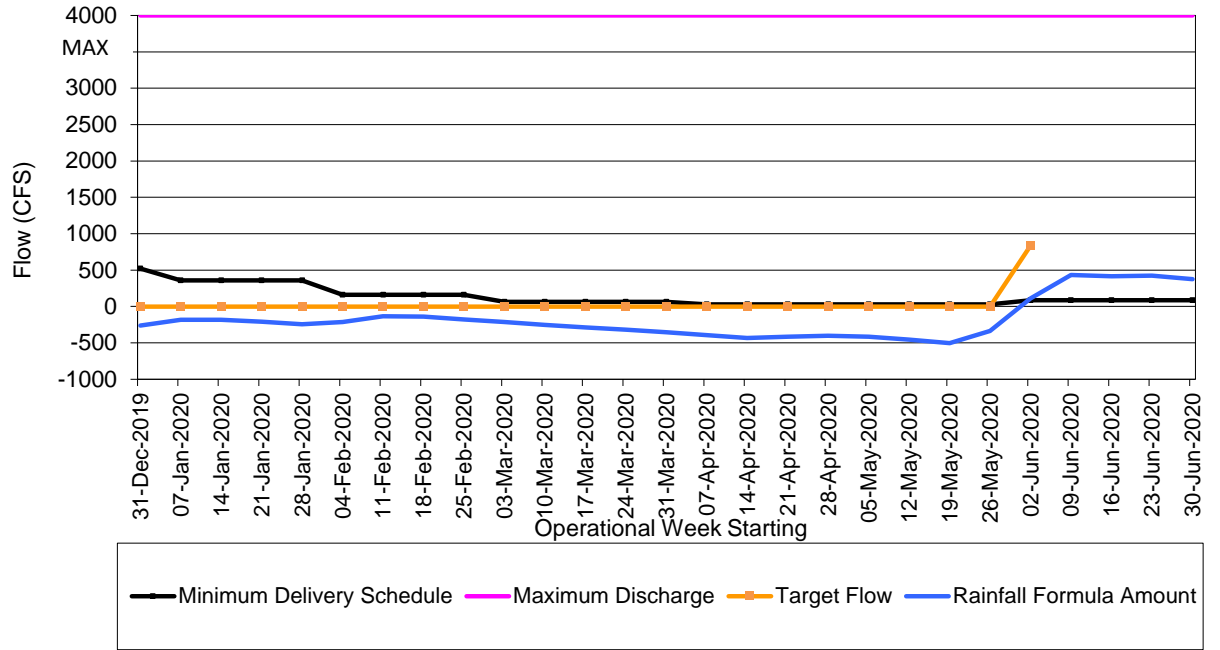
**COMMENT: S7 estimated evap data and S140 estimated evap data were used. ENP evap data were missing**

**\*NOTE: Actual discharges may vary from target discharges because of changing hydrologic conditions.**

## Shark River Slough Actual vs. Historical Rainfall



## Deliveries to Shark River Slough Computed by Rainfall Plan



## WCA-3A RAINFALL-BASED MANAGEMENT PLAN

**Target Flow July 7, 2020**

**to July 13, 2020**

**MAX cfs**

The target flow is distributed from east to west (S-333, S-12D, S-12C, S-12B, and S-12A) to keep WCA 3A releases away from sub-population A of the Cape Sable seaside sparrow

Rainfall Formula Amount 202 cfs  
Regulatory Discharge MAX cfs  
Potential Regulatory Discharge MAX cfs

**----Data Summary ----**

	June 27, 2020	to	July 3, 2020
WCA-3A Stage (end of week)	10.29		ft-NGVD
Angel's	6.41		ft-NGVD
G-3273	6.95		ft-NGVD

<u>Station</u>	<u>Rainfall (in)</u>	<u>Pan Evaporation (in)</u>
NEXRAD Rain for WCA-3A and S7 evaporation	0.49	2.08
S-140		1.64
ENP		M
This Week's Avg	0.49	1.86
Pre-Project Avg	2.05	1.45

**---- Regulatory Discharge Calculation ----**

<b>WCA-3A is in Zone A</b>	<b>Discharge Coeff. (cfs/ft) =</b>	<b>MAX</b>
Regulatory discharge is	MAX	cfs
Distance to Bottom of Current Zone		-0.57 feet
Distance to Top of Current Zone	N/A	feet

**----Potential Regulatory Discharge Considering Upstream Water Levels----**

	Stage (ft-NGVD)	Regulation Stage (ft-NGVD)	Excess Storage (ac-ft)	Depth (ft)
WCA-1	16.07	15.75	38,300	
WCA-2A	12.31	11.09	82,950	
Others			0	
Total Storage Adjustment			121,250	0.28
WCA-3A	10.29			
Adjusted WCA-3A	10.57			

<b>Adjusted WCA-3A is in Zone A</b>	<b>Discharge Coeff. (cfs/ft) =</b>	<b>MAX</b>
Potential regulatory discharge	MAX	cfs
Distance to Bottom of Current Zone		-0.84 feet
Distance to Top of Current Zone	N/A	feet

**----Statistical Parameters ----**

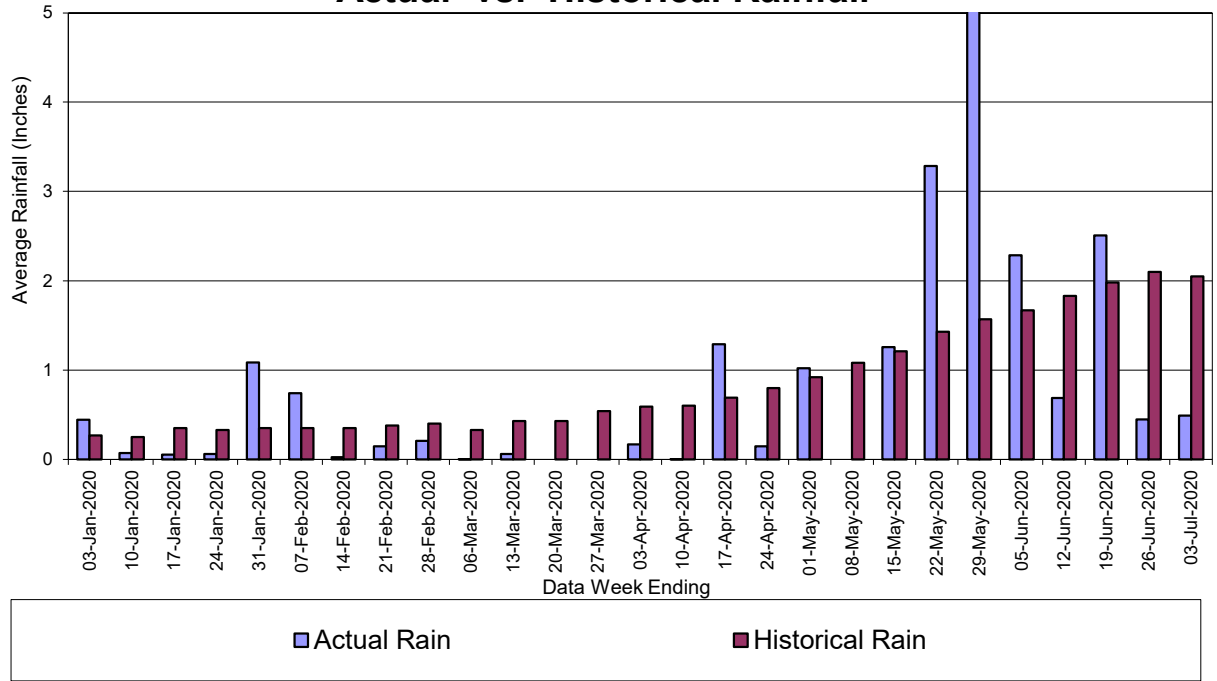
Rainfall Formula Amount	202 cfs
Last Week's Rainfall Formula	374 cfs
Pre-project Mean Discharge	111 cfs

Rainfall Excess Terms	RL1 -3.83	RL2 3.69	RL3	0.13
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**COMMENT: S7 estimated evap data and S140 estimated evap data were used. ENP evap data were missing**

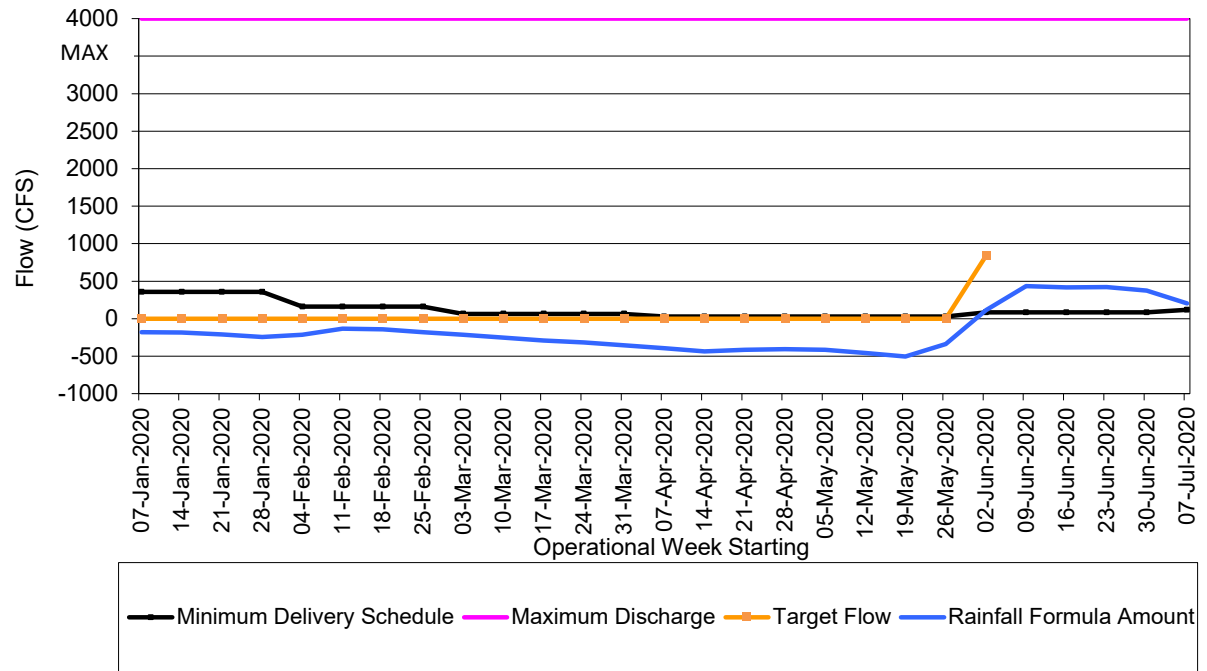
**\*NOTE: Actual discharges may vary from target discharges because of changing hydrologic conditions.**

## Shark River Slough Actual vs. Historical Rainfall



■ Actual Rain      ■ Historical Rain

## Deliveries to Shark River Slough Computed by Rainfall Plan



— Minimum Delivery Schedule    — Maximum Discharge    — Target Flow    — Rainfall Formula Amount

## WCA-3A RAINFALL-BASED MANAGEMENT PLAN

**Target Flow July 14, 2020**

**to July 20, 2020**

**MAX cfs**

The target flow is distributed from east to west (S-333, S-12D, S-12C, S-12B, and S-12A) to keep WCA 3A releases away from sub-population A of the Cape Sable seaside sparrow

Rainfall Formula Amount 107 cfs  
Regulatory Discharge MAX cfs  
Potential Regulatory Discharge MAX cfs

**----Data Summary ----**

	July 4, 2020	to	July 10, 2020
WCA-3A Stage (end of week)	10.33		ft-NGVD
Angel's	6.78		ft-NGVD
G-3273	7.07		ft-NGVD

<u>Station</u>	<u>Rainfall (in)</u>	<u>Pan Evaporation (in)</u>
NEXRAD Rain for WCA-3A and S7 evaporation	1.28	1.65
S-140		1.64
ENP		M
This Week's Avg	1.28	1.65
Pre-Project Avg	1.93	1.45

**---- Regulatory Discharge Calculation ----**

<b>WCA-3A is in Zone A</b>	<b>Discharge Coeff. (cfs/ft) =</b>	<b>MAX</b>
Regulatory discharge is	MAX	cfs
Distance to Bottom of Current Zone		-0.56 feet
Distance to Top of Current Zone	N/A	feet

**----Potential Regulatory Discharge Considering Upstream Water Levels----**

	Stage (ft-NGVD)	Regulation Stage (ft-NGVD)	Excess Storage (ac-ft)	Depth (ft)
WCA-1	16.10	15.80	38,300	
WCA-2A	11.97	11.24	46,400	
Others			0	
Total Storage Adjustment			84,700	0.20
WCA-3A	10.33			
Adjusted WCA-3A	10.53			

<b>Adjusted WCA-3A is in Zone A</b>	<b>Discharge Coeff. (cfs/ft) =</b>	<b>MAX</b>
Potential regulatory discharge	MAX	cfs
Distance to Bottom of Current Zone		-0.76 feet
Distance to Top of Current Zone	N/A	feet

**----Statistical Parameters ----**

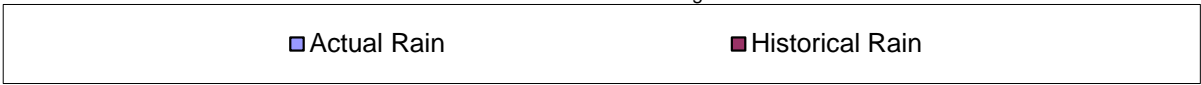
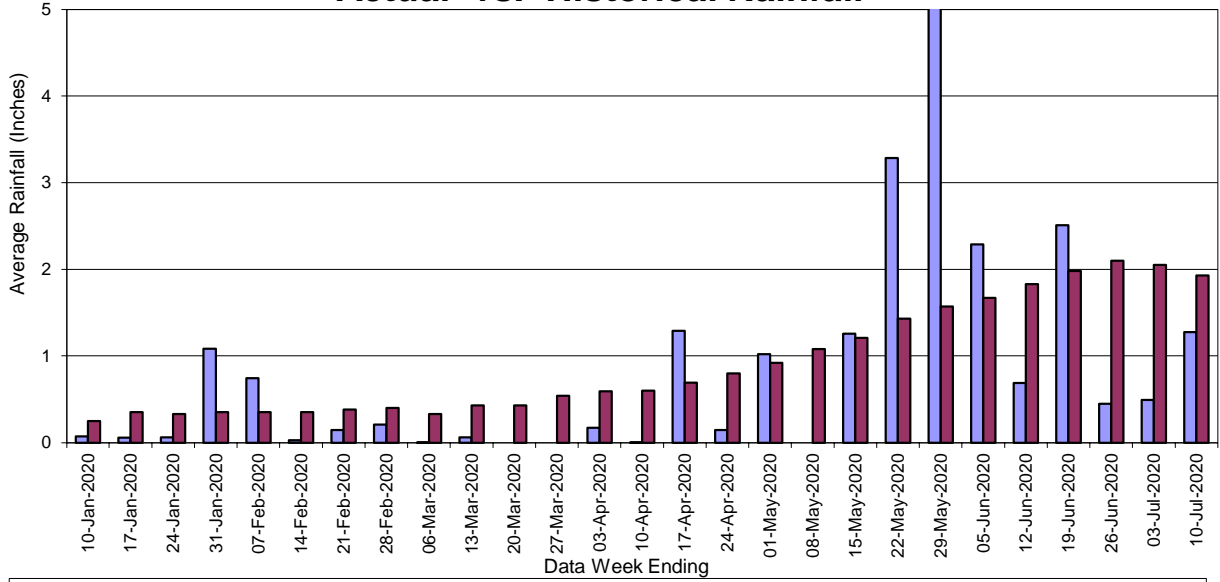
Rainfall Formula Amount	107 cfs
Last Week's Rainfall Formula	202 cfs
Pre-project Mean Discharge	128 cfs

Rainfall Excess Terms	RL1 -2.70	RL2 -2.21	RL3 4.05
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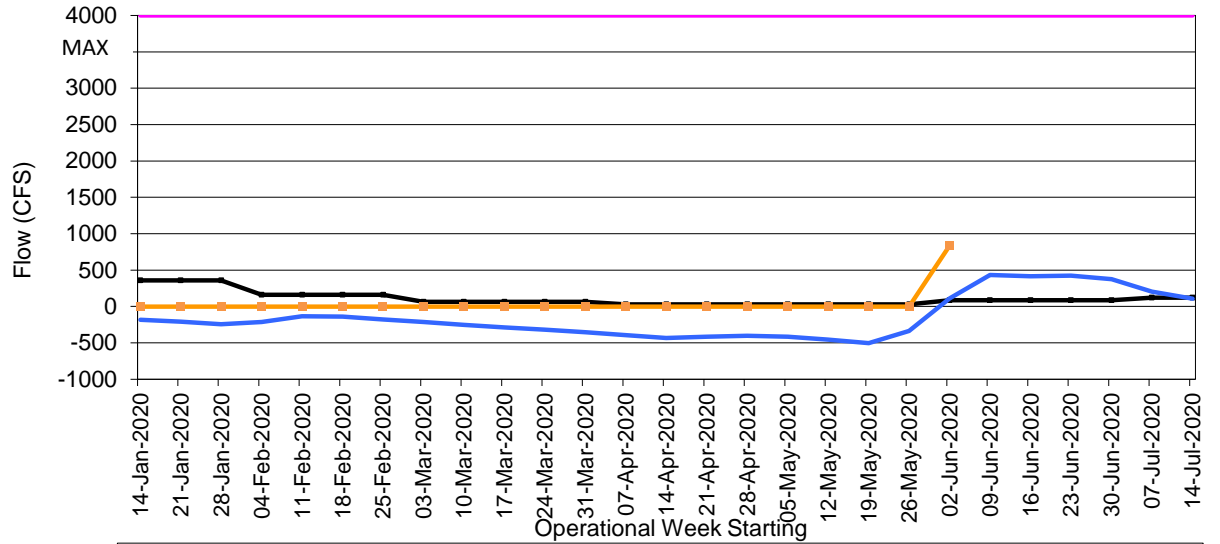
**COMMENT: S7 estimated evap data and S140 estimated evap data were used. ENP evap data were missing**

**\*NOTE: Actual discharges may vary from target discharges because of changing hydrologic conditions.**

## Shark River Slough Actual vs. Historical Rainfall



## Deliveries to Shark River Slough Computed by Rainfall Plan





## WCA-3A RAINFALL-BASED MANAGEMENT PLAN

**Target Flow July 21, 2020**

**to July 27, 2020**

**MAX cfs**

The target flow is distributed from east to west (S-333, S-12D, S-12C, S-12B, and S-12A) to keep WCA 3A releases away from sub-population A of the Cape Sable seaside sparrow

Rainfall Formula Amount 164 cfs  
Regulatory Discharge MAX cfs  
Potential Regulatory Discharge MAX cfs

**----Data Summary ----**

	July 11, 2020	to	July 17, 2020
WCA-3A Stage (end of week)	10.33		ft-NGVD
Angel's	7.04		ft-NGVD
G-3273	7.27		ft-NGVD

<u>Station</u>	<u>Rainfall (in)</u>	<u>Pan Evaporation (in)</u>
NEXRAD Rain for WCA-3A and S7 evaporation	2.52	1.56
S-140		1.65
ENP		M
This Week's Avg	2.52	1.60
Pre-Project Avg	1.95	1.43

**---- Regulatory Discharge Calculation ----**

<b>WCA-3A is in Zone A</b>	<b>Discharge Coeff. (cfs/ft) =</b>	<b>MAX</b>
Regulatory discharge is	MAX	cfs
Distance to Bottom of Current Zone		-0.52 feet
Distance to Top of Current Zone	N/A	feet

**----Potential Regulatory Discharge Considering Upstream Water Levels----**

	Stage (ft-NGVD)	Regulation Stage (ft-NGVD)	Excess Storage (ac-ft)	Depth (ft)
WCA-1	16.14	15.88	31,800	
WCA-2A	11.92	11.39	35,590	
Others			0	
Total Storage Adjustment			67,390	0.16
WCA-3A	10.33			
Adjusted WCA-3A	10.49			

<b>Adjusted WCA-3A is in Zone A</b>	<b>Discharge Coeff. (cfs/ft) =</b>	<b>MAX</b>
Potential regulatory discharge	MAX	cfs
Distance to Bottom of Current Zone		-0.68 feet
Distance to Top of Current Zone	N/A	feet

**----Statistical Parameters ----**

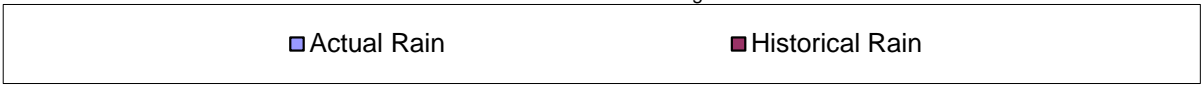
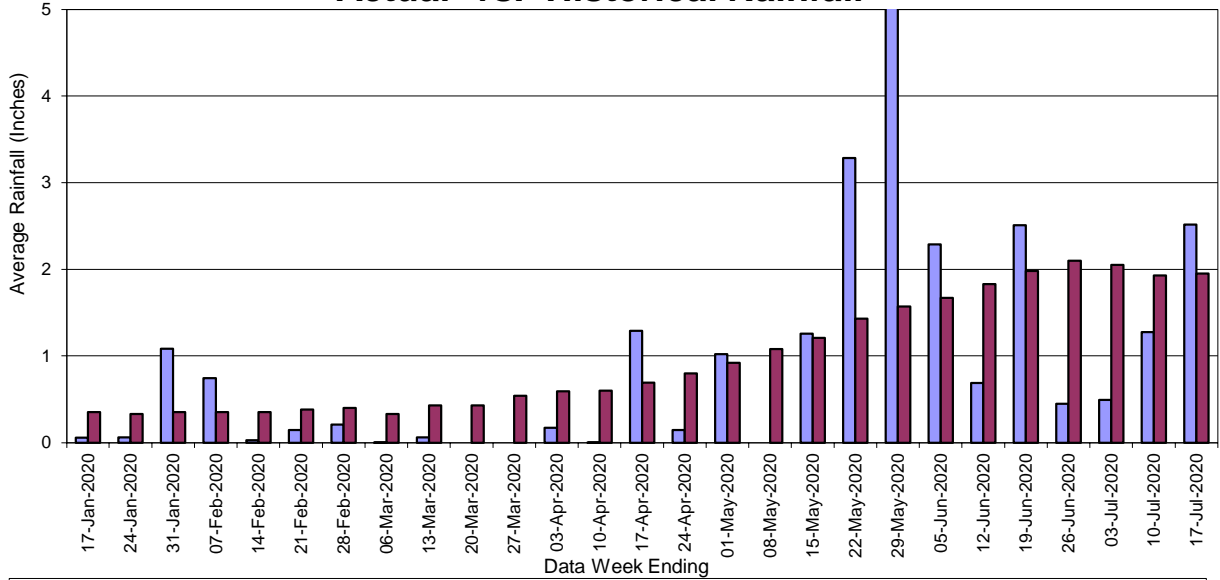
Rainfall Formula Amount	164 cfs
Last Week's Rainfall Formula	107 cfs
Pre-project Mean Discharge	148 cfs

Rainfall Excess Terms	RL1 -0.39	RL2 -4.58	RL3 6.06
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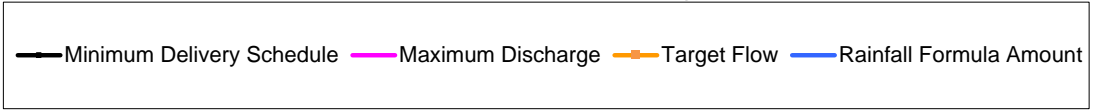
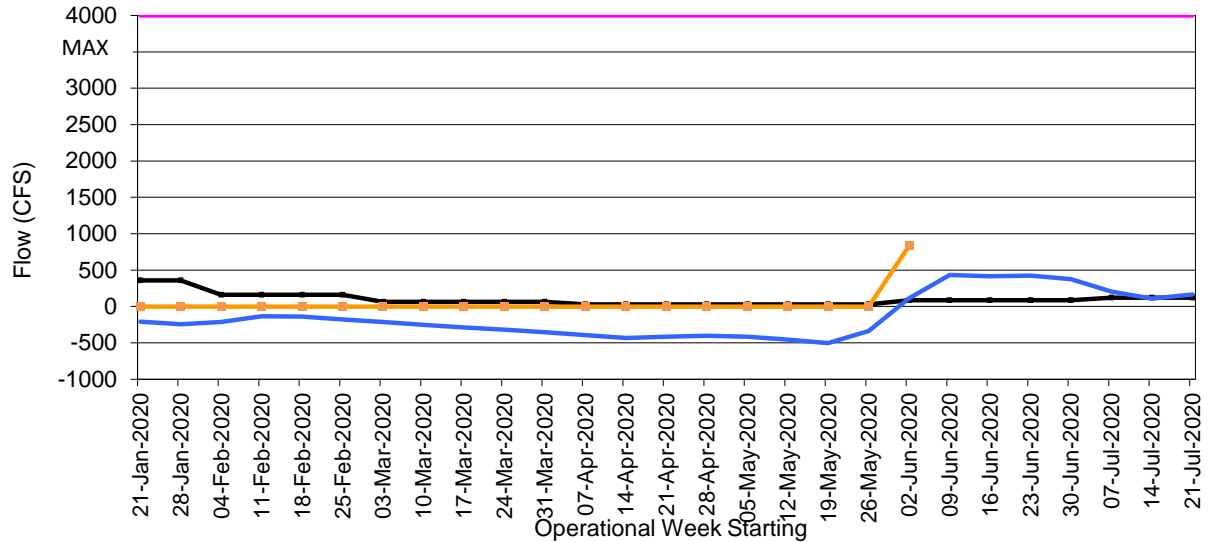
**COMMENT: S7 estimated evap data and S140 estimated evap data were used. ENP evap data were missing**

**\*NOTE: Actual discharges may vary from target discharges because of changing hydrologic conditions.**

## Shark River Slough Actual vs. Historical Rainfall



## Deliveries to Shark River Slough Computed by Rainfall Plan



## WCA-3A RAINFALL-BASED MANAGEMENT PLAN

**Target Flow July 28, 2020**

**to August 3, 2020**

**MAX cfs**

The target flow is distributed from east to west (S-333, S-12D, S-12C, S-12B, and S-12A) to keep WCA 3A releases away from sub-population A of the Cape Sable seaside sparrow

Rainfall Formula Amount      342 cfs  
Regulatory Discharge      MAX cfs  
Potential Regulatory Discharge      MAX cfs

**----Data Summary ----**

	July 18, 2020	to	July 24, 2020
WCA-3A Stage (end of week)	10.58		ft-NGVD
Angel's	7.59		ft-NGVD
G-3273	7.66		ft-NGVD

<u>Station</u>	<u>Rainfall (in)</u>	<u>Pan Evaporation (in)</u>
NEXRAD Rain for WCA-3A and S7 evaporation	3.21	1.32
S-140		1.66
ENP		M
This Week's Avg	3.21	1.49
Pre-Project Avg	1.92	1.42

**---- Regulatory Discharge Calculation ----**

<b>WCA-3A is in Zone A</b>	<b>Discharge Coeff. (cfs/ft) =</b>	<b>MAX</b>
Regulatory discharge is	MAX	cfs
Distance to Bottom of Current Zone		-0.72 feet
Distance to Top of Current Zone	N/A	feet

**----Potential Regulatory Discharge Considering Upstream Water Levels----**

	Stage (ft-NGVD)	Regulation Stage (ft-NGVD)	Excess Storage (ac-ft)	Depth (ft)
WCA-1	16.40	15.96	58,000	
WCA-2A	12.02	11.54	36,100	
Others			0	
Total Storage Adjustment			94,100	0.22
WCA-3A	10.58			
Adjusted WCA-3A	10.80			

<b>Adjusted WCA-3A is in Zone A</b>	<b>Discharge Coeff. (cfs/ft) =</b>	<b>MAX</b>
Potential regulatory discharge	MAX	cfs
Distance to Bottom of Current Zone		-0.94 feet
Distance to Top of Current Zone	N/A	feet

**----Statistical Parameters ----**

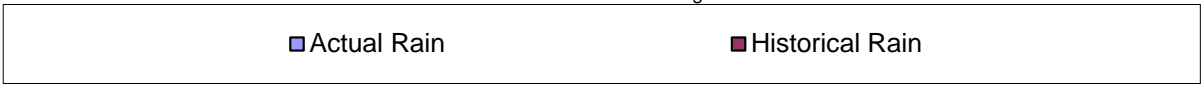
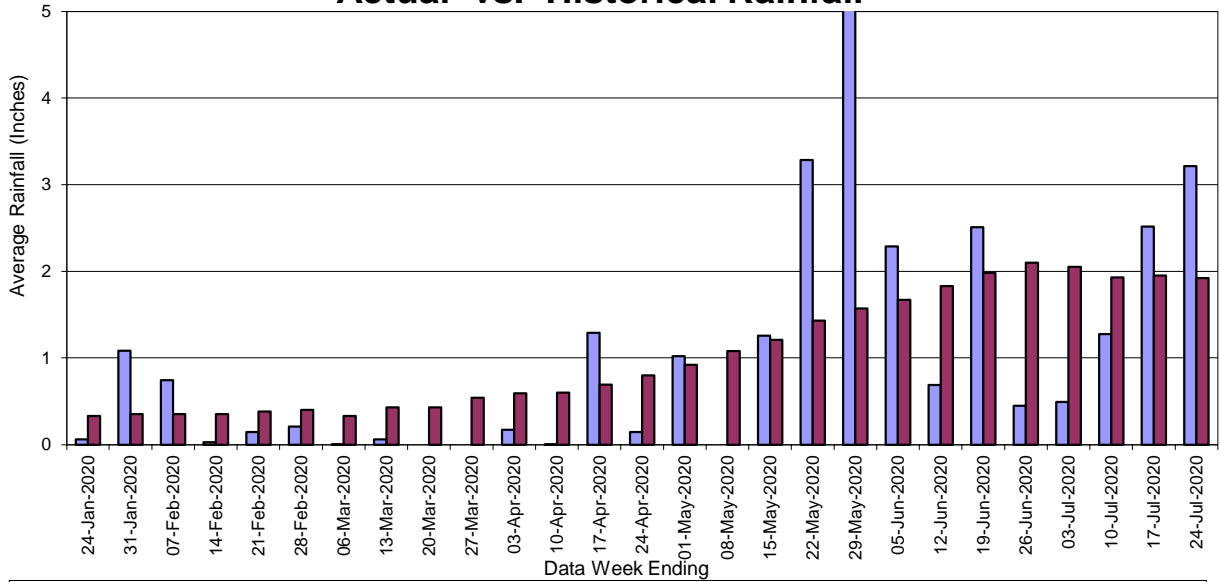
Rainfall Formula Amount	342 cfs
Last Week's Rainfall Formula	164 cfs
Pre-project Mean Discharge	162 cfs

Rainfall Excess Terms	RL1 1.67	RL2 -4.30	RL3 5.16
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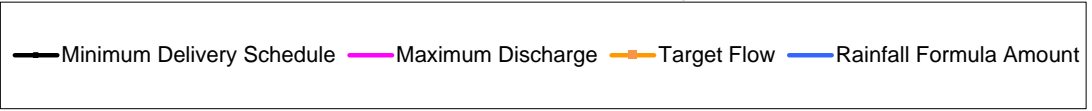
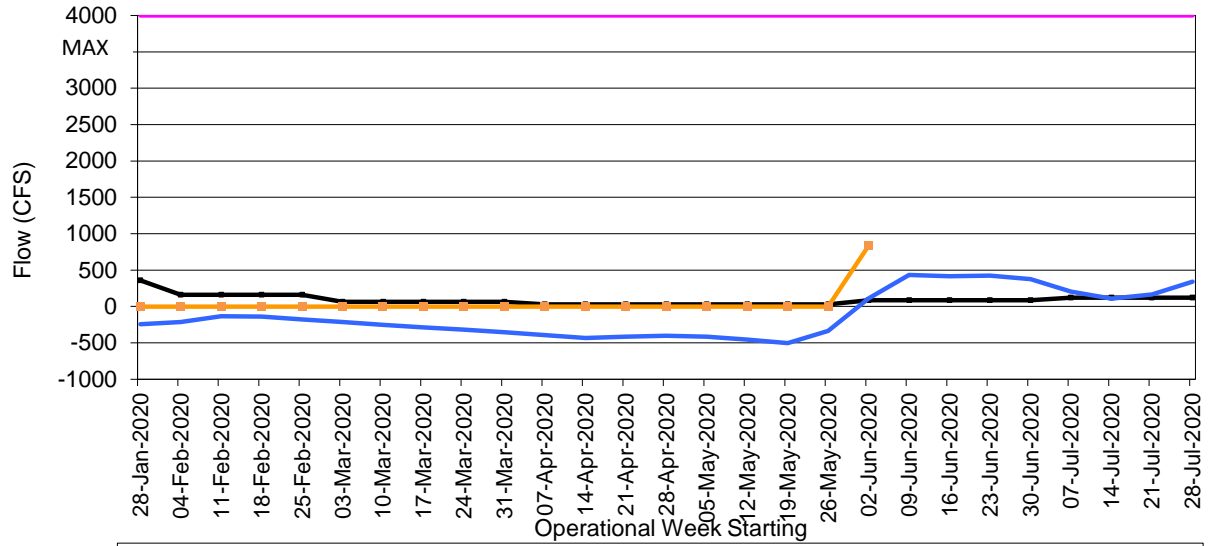
**COMMENT: S7 estimated evap data and S140 estimated evap data were used. ENP evap data were missing**

**\*NOTE: Actual discharges may vary from target discharges because of changing hydrologic conditions.**

## Shark River Slough Actual vs. Historical Rainfall



## Deliveries to Shark River Slough Computed by Rainfall Plan



**WCA-3A RAINFALL-BASED MANAGEMENT PLAN**

**Target Flow August 4, 2020 to August 10, 2020 MAX cfs**

The target flow is distributed from east to west (S-333, S-12D, S-12C, S-12B, and S-12A) to keep WCA 3A releases away from sub-population A of the Cape Sable seaside sparrow

Rainfall Formula Amount 414 cfs  
Regulatory Discharge MAX cfs  
Potential Regulatory Discharge MAX cfs

**----Data Summary ----**

	<b>July 25, 2020</b>	<b>to</b>	<b>July 31, 2020</b>
WCA-3A Stage (end of week)	10.55		ft-NGVD
Angel's	7.32		ft-NGVD
G-3273	7.47		ft-NGVD

<u>Station</u>	<u>Rainfall (in)</u>	<u>Pan Evaporation (in)</u>
NEXRAD Rain for WCA-3A and S7 evaporation	1.38	1.65
S-140		1.67
ENP		M
This Week's Avg	<hr/> 1.38	<hr/> 1.66
Pre-Project Avg	1.83	1.42

**---- Regulatory Discharge Calculation ----**

<b>WCA-3A is in Zone A</b>	<b>Discharge Coeff. (cfs/ft) =</b>	<b>MAX</b>
Regulatory discharge is	MAX	cfs
Distance to Bottom of Current Zone		-0.64 feet
Distance to Top of Current Zone	N/A	feet

**----Potential Regulatory Discharge Considering Upstream Water Levels----**

	Stage (ft-NGVD)	Regulation Stage (ft-NGVD)	Excess Storage (ac-ft)	Depth (ft)
WCA-1	16.43	16.04	51,600	
WCA-2A	12.07	11.70	30,490	
Others			0	
Total Storage Adjustment			<hr/> 82,090	0.19
WCA-3A	10.55			
Adjusted WCA-3A	10.74			

<b>Adjusted WCA-3A is in Zone A</b>	<b>Discharge Coeff. (cfs/ft) =</b>	<b>MAX</b>
Potential regulatory discharge	MAX	cfs
Distance to Bottom of Current Zone		-0.84 feet
Distance to Top of Current Zone	N/A	feet

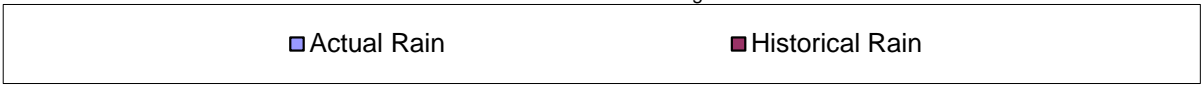
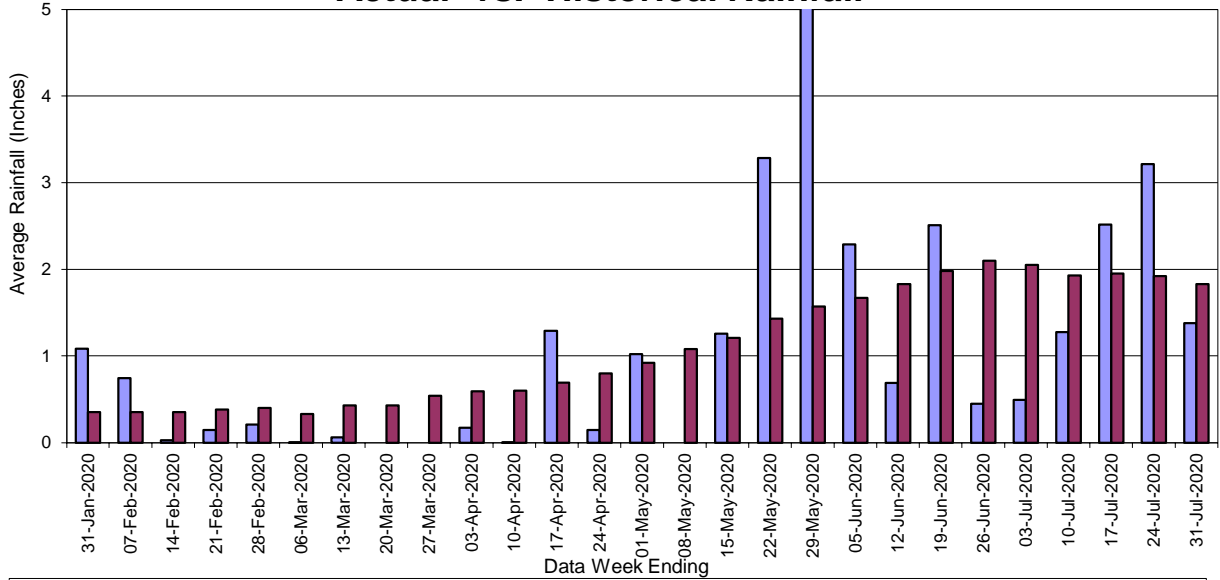
**----Statistical Parameters ----**

Rainfall Formula Amount		414 cfs
Last Week's Rainfall Formula		342 cfs
Pre-project Mean Discharge		175 cfs
Rainfall Excess Terms		
RL1 0.60	RL2 -4.22	RL3 3.69

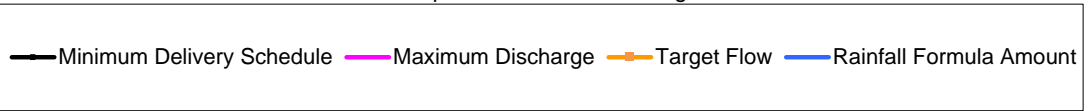
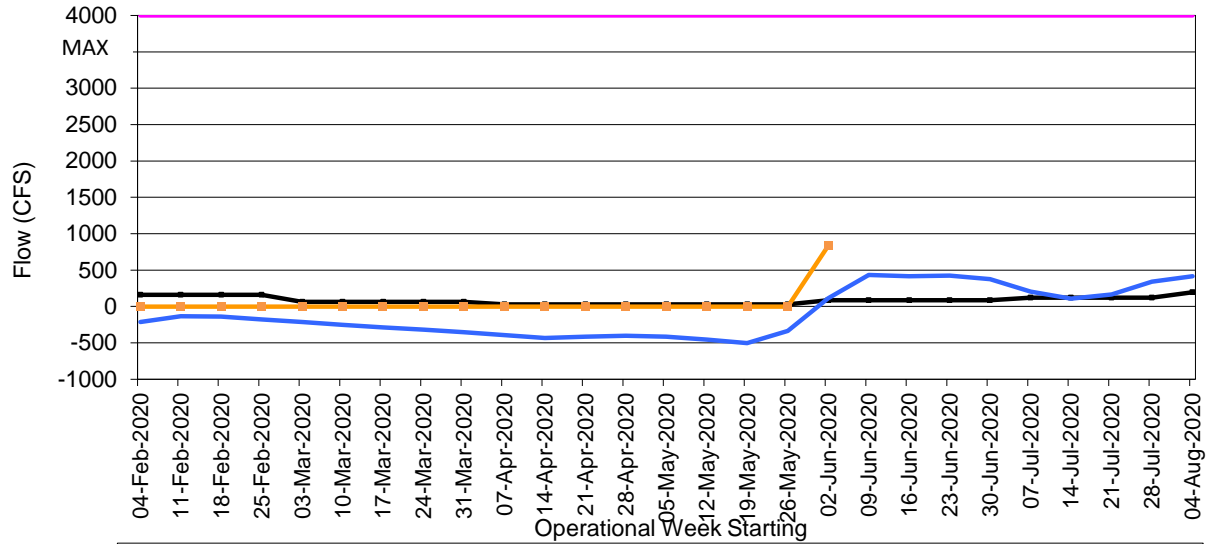
**COMMENT: S7 estimated evap data and S140 estimated evap data were used. ENP evap data were missing**

**\*NOTE: Actual discharges may vary from target discharges because of changing hydrologic conditions.**

## Shark River Slough Actual vs. Historical Rainfall



## Deliveries to Shark River Slough Computed by Rainfall Plan



## WCA-3A RAINFALL-BASED MANAGEMENT PLAN

Target Flow August 11, 2020 to August 17, 2020 MAX cfs

The target flow is distributed from east to west (S-333, S-12D, S-12C, S-12B, and S-12A) to keep WCA 3A releases away from sub-population A of the Cape Sable seaside sparrow

Rainfall Formula Amount            389 cfs  
Regulatory Discharge            MAX cfs  
Potential Regulatory Discharge            MAX cfs

-----Data Summary -----

	August 1, 2020	to	August 7, 2020
WCA-3A Stage (end of week)	10.73		ft-NGVD
Angel's	7.50		ft-NGVD
G-3273	7.60		ft-NGVD

Station	Rainfall (in)	Pan Evaporation (in)
NEXRAD Rain for WCA-3A and S7 evaporation	2.39	1.94
S-140		1.62
ENP		M
This Week's Avg	2.39	1.78
Pre-Project Avg	1.72	1.42

----- Regulatory Discharge Calculation -----

<b>WCA-3A is in Zone A</b>		<b>Discharge Coeff. (cfs/ft) =</b>	<b>MAX</b>
Regulatory discharge is		MAX	cfs
Distance to Bottom of Current Zone		-0.78	feet
Distance to Top of Current Zone		N/A	feet

-----Potential Regulatory Discharge Considering Upstream Water Levels-----

	Stage (ft-NGVD)	Regulation Stage (ft-NGVD)	Excess Storage (ac-ft)	Depth (ft)
WCA-1	16.59	16.12	59,400	
WCA-2A	12.52	11.85	61,100	
Others			0	
Total Storage Adjustment			120,500	0.28
WCA-3A	10.73			
Adjusted WCA-3A	11.01			

<b>Adjusted WCA-3A is in Zone A</b>		<b>Discharge Coeff. (cfs/ft) =</b>	<b>MAX</b>
Potential regulatory discharge		MAX	cfs
Distance to Bottom of Current Zone		-1.06	feet
Distance to Top of Current Zone		N/A	feet

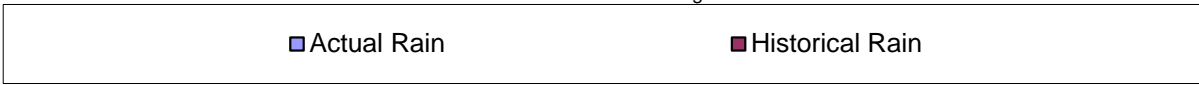
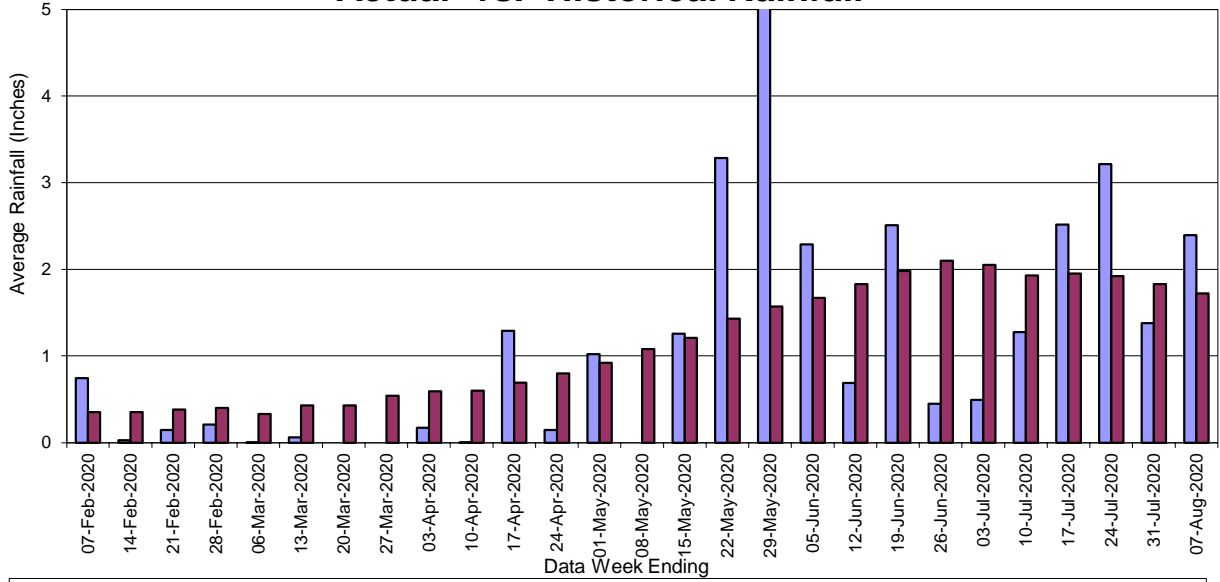
-----Statistical Parameters -----

Rainfall Formula Amount	389 cfs	
Last Week's Rainfall Formula	414 cfs	
Pre-project Mean Discharge	185 cfs	
Rainfall Excess Terms		
RL1 -0.26	RL2 -1.03	RL3 -2.21

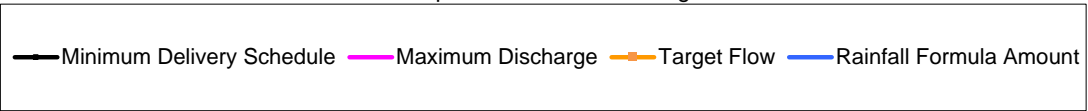
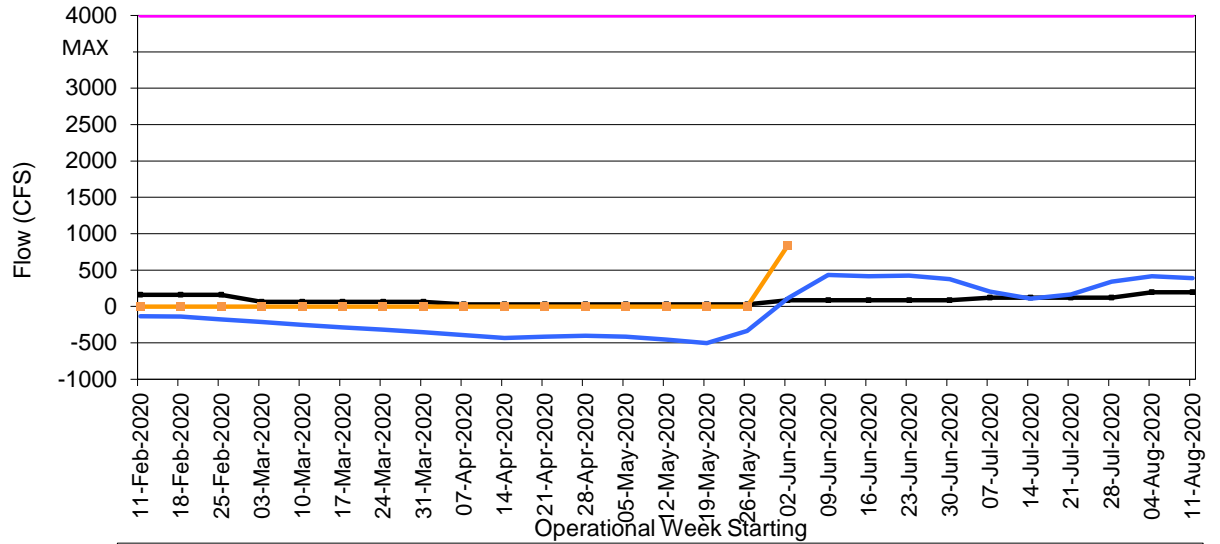
COMMENT: S7 estimated evap data and S140 estimated evap data were used. ENP evap data were missing

\*NOTE: Actual discharges may vary from target discharges because of changing hydrologic conditions.

## Shark River Slough Actual vs. Historical Rainfall



## Deliveries to Shark River Slough Computed by Rainfall Plan





## WCA-3A RAINFALL-BASED MANAGEMENT PLAN

**Target Flow August 18, 2020**

**to August 24, 2020**

**MAX cfs**

The target flow is distributed from east to west (S-333, S-12D, S-12C, S-12B, and S-12A) to keep WCA 3A releases away from sub-population A of the Cape Sable seaside sparrow

Rainfall Formula Amount 367 cfs  
Regulatory Discharge MAX cfs  
Potential Regulatory Discharge MAX cfs

**----Data Summary ----**

	August 8, 2020	to	August 14, 2020
WCA-3A Stage (end of week)	10.76		ft-NGVD
Angel's	7.34		ft-NGVD
G-3273	7.51		ft-NGVD

<u>Station</u>	<u>Rainfall (in)</u>	<u>Pan Evaporation (in)</u>
NEXRAD Rain for WCA-3A and S7 evaporation	1.00	1.23
S-140		1.66
ENP		M
This Week's Avg	1.00	1.44
Pre-Project Avg	1.70	1.39

**---- Regulatory Discharge Calculation ----**

<b>WCA-3A is in Zone A</b>	<b>Discharge Coeff. (cfs/ft) =</b>	<b>MAX</b>
Regulatory discharge is	MAX	cfs
Distance to Bottom of Current Zone		-0.76 feet
Distance to Top of Current Zone	N/A	feet

**----Potential Regulatory Discharge Considering Upstream Water Levels----**

	Stage (ft-NGVD)	Regulation Stage (ft-NGVD)	Excess Storage (ac-ft)	Depth (ft)
WCA-1	16.67	16.20	60,800	
WCA-2A	12.41	12.00	36,000	
Others			0	
Total Storage Adjustment			96,800	0.23
WCA-3A	10.76			
Adjusted WCA-3A	10.99			

<b>Adjusted WCA-3A is in Zone A</b>	<b>Discharge Coeff. (cfs/ft) =</b>	<b>MAX</b>
Potential regulatory discharge	MAX	cfs
Distance to Bottom of Current Zone		-0.99 feet
Distance to Top of Current Zone	N/A	feet

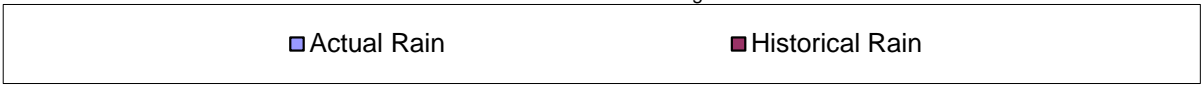
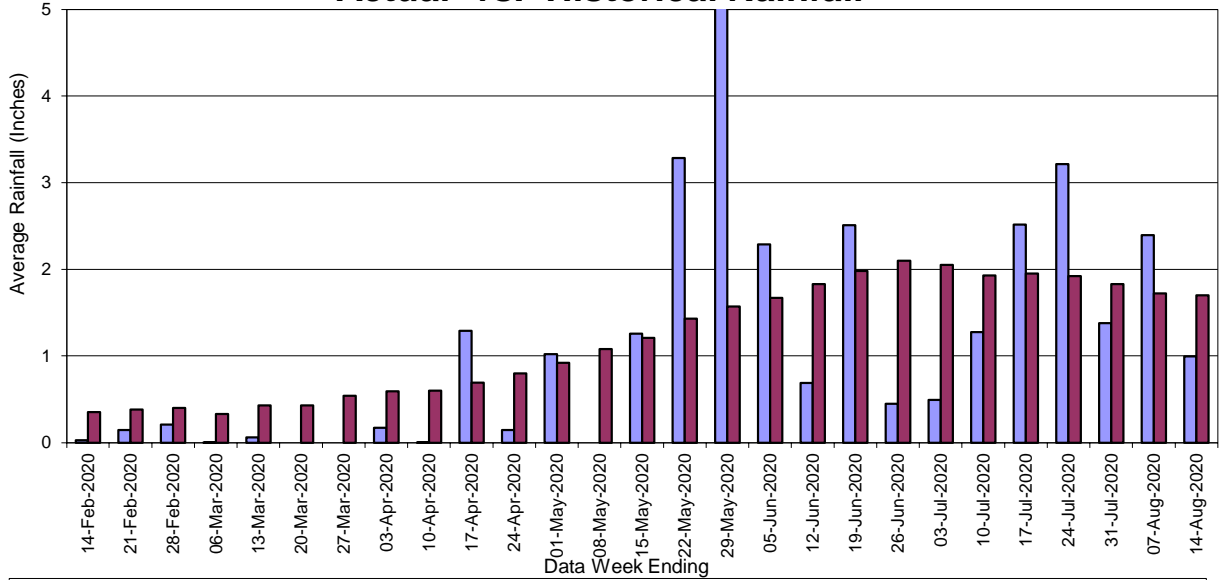
**----Statistical Parameters ----**

Rainfall Formula Amount		367 cfs
Last Week's Rainfall Formula		389 cfs
Pre-project Mean Discharge		199 cfs
Rainfall Excess Terms		
RL1 -0.36	RL2 0.21	RL3 -4.58

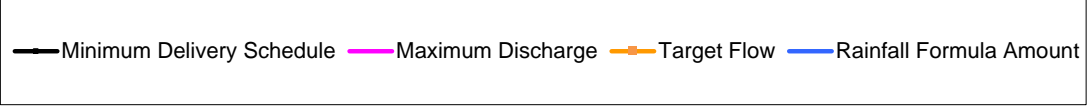
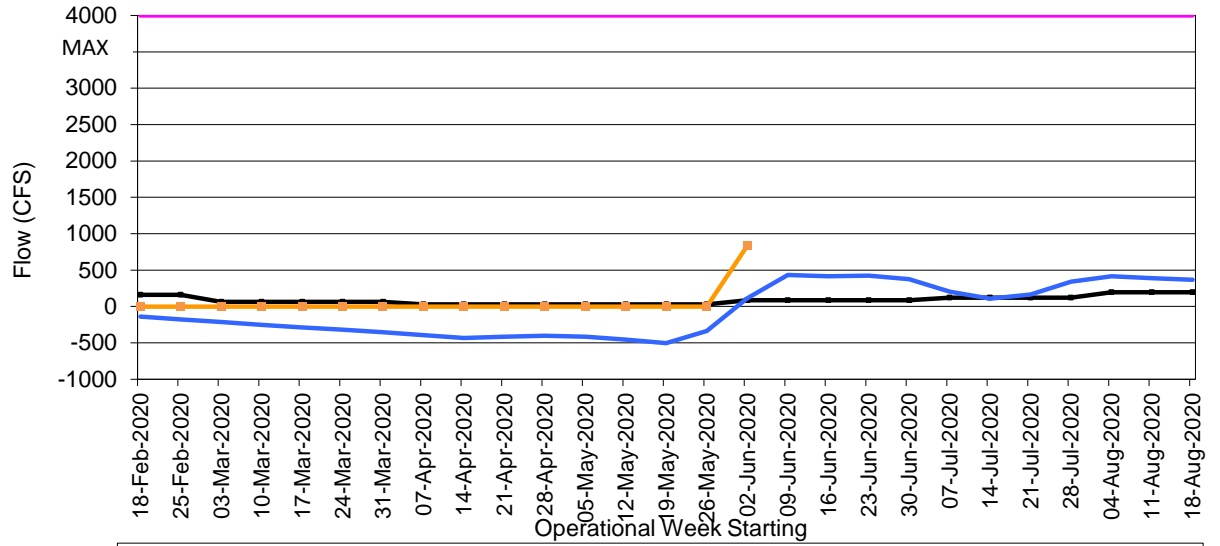
**COMMENT: S7 estimated evap data and S140 estimated evap data were used. ENP evap data were missing**

**\*NOTE: Actual discharges may vary from target discharges because of changing hydrologic conditions.**

## Shark River Slough Actual vs. Historical Rainfall



## Deliveries to Shark River Slough Computed by Rainfall Plan



**WCA-3A RAINFALL-BASED MANAGEMENT PLAN**

**Target Flow August 25, 2020 to August 31, 2020** **MAX cfs**

The target flow is distributed from east to west (S-333, S-12D, S-12C, S-12B, and S-12A) to keep WCA 3A releases away from sub-population A of the Cape Sable seaside sparrow

Rainfall Formula Amount      304 cfs  
Regulatory Discharge      MAX cfs  
Potential Regulatory Discharge      MAX cfs

**----Data Summary ----**

	<b>August 15, 2020</b>	<b>to</b>	<b>August 21, 2020</b>
WCA-3A Stage (end of week)	10.76		ft-NGVD
Angel's	7.47		ft-NGVD
G-3273	7.58		ft-NGVD

<u>Station</u>	<u>Rainfall (in)</u>	<u>Pan Evaporation (in)</u>
NEXRAD Rain for WCA-3A and S7 evaporation	1.22	2.06
S-140		1.67
ENP		M
This Week's Avg	<hr/> 1.22	<hr/> 1.87
Pre-Project Avg	1.73	1.40

**---- Regulatory Discharge Calculation ----**

<b>WCA-3A is in Zone A</b>	<b>Discharge Coeff. (cfs/ft) =</b>	<b>MAX</b>
Regulatory discharge is	MAX	cfs
Distance to Bottom of Current Zone		-0.72 feet
Distance to Top of Current Zone	N/A	feet

**----Potential Regulatory Discharge Considering Upstream Water Levels----**

	Stage (ft-NGVD)	Regulation Stage (ft-NGVD)	Excess Storage (ac-ft)	Depth (ft)
WCA-1	16.92	16.29	89,500	
WCA-2A	12.33	12.15	13,450	
Others			0	
Total Storage Adjustment			<hr/> 102,950	0.24
WCA-3A	10.76			
Adjusted WCA-3A	11.00			

<b>Adjusted WCA-3A is in Zone A</b>	<b>Discharge Coeff. (cfs/ft) =</b>	<b>MAX</b>
Potential regulatory discharge	MAX	cfs
Distance to Bottom of Current Zone		-0.96 feet
Distance to Top of Current Zone	N/A	feet

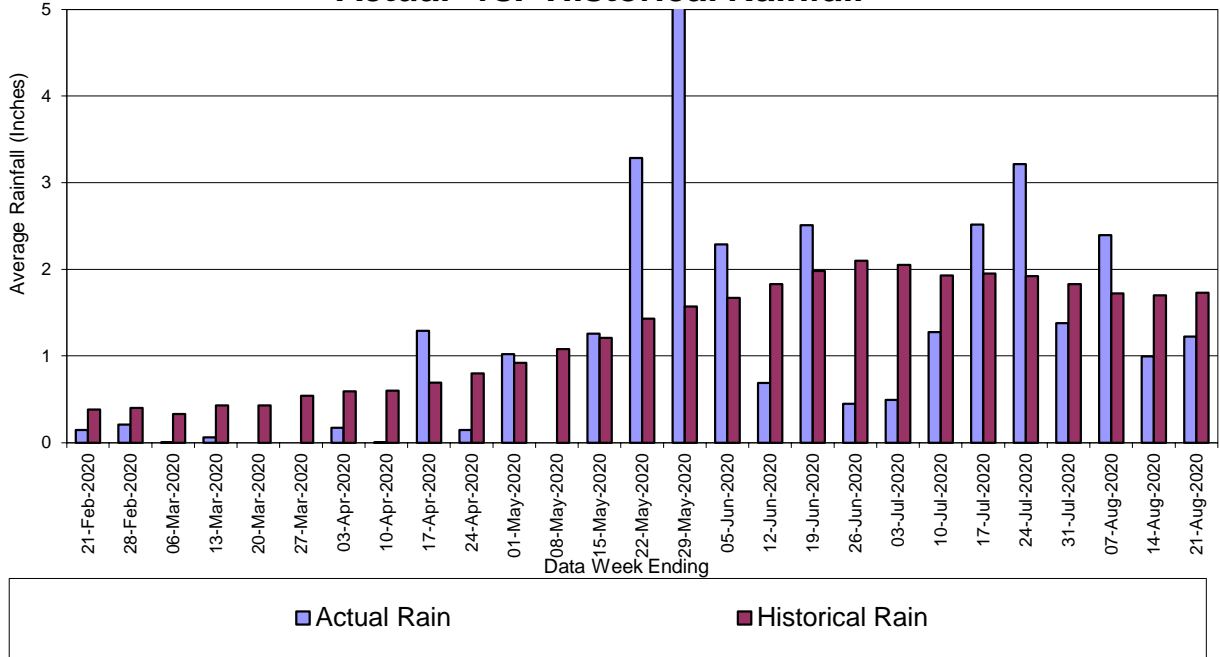
**----Statistical Parameters ----**

Rainfall Formula Amount		304 cfs
Last Week's Rainfall Formula		367 cfs
Pre-project Mean Discharge		223 cfs
Rainfall Excess Terms		
RL1 -1.63	RL2 1.41	RL3 -4.30

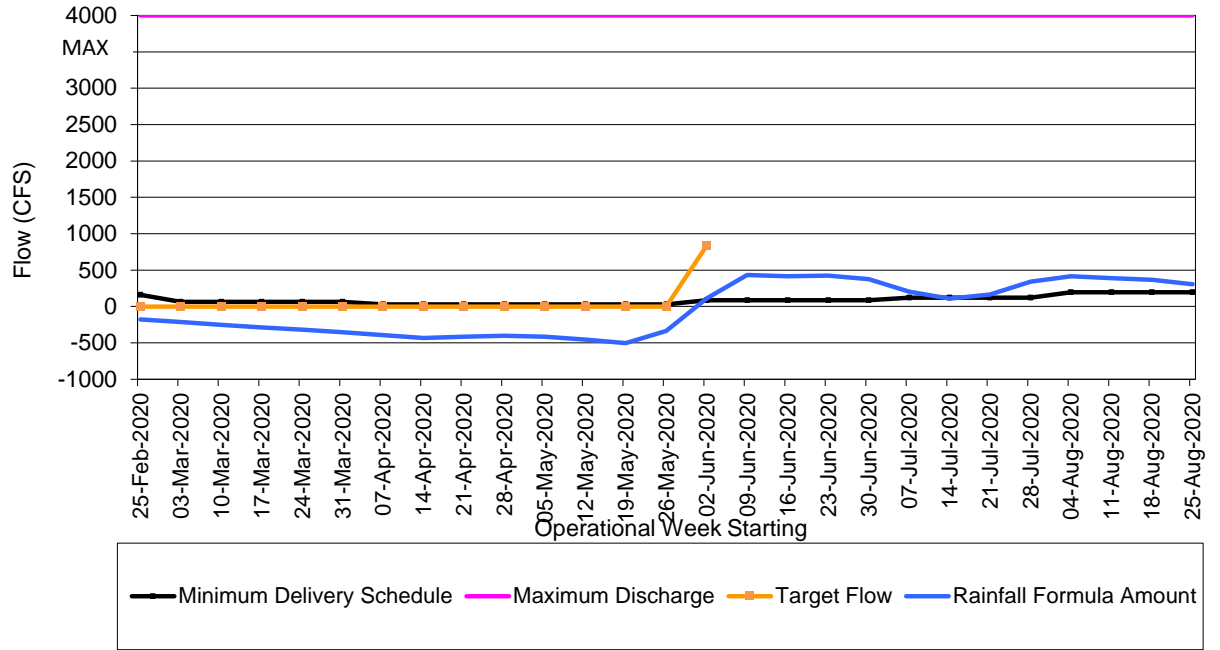
**COMMENT: S7 estimated evap data and S140 estimated evap data were used. ENP evap data were missing**

**\*NOTE: Actual discharges may vary from target discharges because of changing hydrologic conditions.**

## Shark River Slough Actual vs. Historical Rainfall



## Deliveries to Shark River Slough Computed by Rainfall Plan



## WCA-3A RAINFALL-BASED MANAGEMENT PLAN

**Target Flow September 1, 2020**                      to                      **September 7, 2020**                      **MAX cfs**

The target flow is distributed from east to west (S-333, S-12D, S-12C, S-12B, and S-12A) to keep WCA 3A releases away from sub-population A of the Cape Sable seaside sparrow

Rainfall Formula Amount                      194 cfs  
Regulatory Discharge                      MAX cfs  
Potential Regulatory Discharge                      MAX cfs

**----Data Summary ----**

	August 22, 2020	to	August 28, 2020
WCA-3A Stage (end of week)	10.62		ft-NGVD
Angel's	7.32		ft-NGVD
G-3273	7.53		ft-NGVD

<u>Station</u>	<u>Rainfall (in)</u>	<u>Pan Evaporation (in)</u>
NEXRAD Rain for WCA-3A and S7 evaporation	0.48	2.04
S-140		1.55
ENP		M
This Week's Avg	0.48	1.79
Pre-Project Avg	1.89	1.36

**---- Regulatory Discharge Calculation ----**

<b>WCA-3A is in Zone A</b>	<b>Discharge Coeff. (cfs/ft) =</b>	<b>MAX</b>
Regulatory discharge is	MAX	cfs
Distance to Bottom of Current Zone		-0.53 feet
Distance to Top of Current Zone	N/A	feet

**----Potential Regulatory Discharge Considering Upstream Water Levels----**

	Stage (ft-NGVD)	Regulation Stage (ft-NGVD)	Excess Storage (ac-ft)	Depth (ft)
WCA-1	17.03	16.42	83,400	
WCA-2A	12.25	12.30	-4,750	
Others			0	
Total Storage Adjustment			78,650	0.18
WCA-3A	10.62			
Adjusted WCA-3A	10.80			

<b>Adjusted WCA-3A is in Zone A</b>	<b>Discharge Coeff. (cfs/ft) =</b>	<b>MAX</b>
Potential regulatory discharge	MAX	cfs
Distance to Bottom of Current Zone		-0.71 feet
Distance to Top of Current Zone	N/A	feet

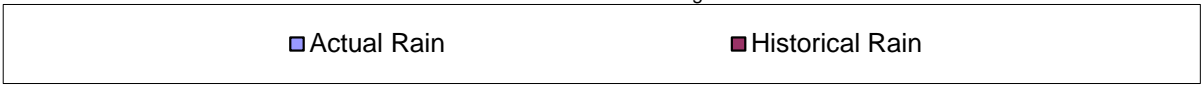
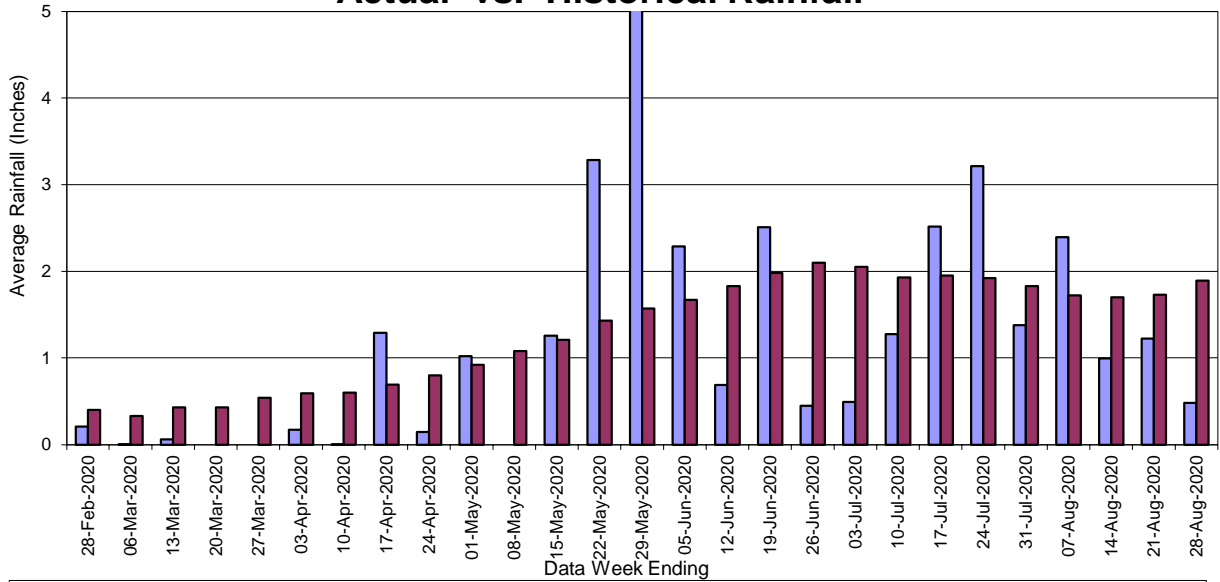
**----Statistical Parameters ----**

Rainfall Formula Amount		194 cfs
Last Week's Rainfall Formula		304 cfs
Pre-project Mean Discharge		257 cfs
Rainfall Excess Terms		
RL1 -2.63	RL2 0.24	RL3 -4.22

**COMMENT: S7 estimated evap data and S140 estimated evap data were used. ENP evap data were missing**

**\*NOTE: Actual discharges may vary from target discharges because of changing hydrologic conditions.**

## Shark River Slough Actual vs. Historical Rainfall



## Deliveries to Shark River Slough Computed by Rainfall Plan

